

Erie Metropolitan Planning Organization

2050

LONG RANGE

TRANSPORTATION PLAN

Adopted by the Erie MPO

March 9, 2022

Erie County | 2050 Long Range Transportation Plan
Final Plan

Adopted by the Erie MPO on March 9, 2022

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Prepared for:
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The Erie Area Transportation Study Metropolitan Planning Organization (Erie MPO)

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Executive Summary

Introduction

This Erie County 2050 Long Range Transportation Plan (Erie LRTP) prioritizes transportation investments in Erie County over the next 20+ years and develops a financially-constrained project listing based on anticipated funding levels. The Erie LRTP is a locally-derived, multimodal transportation plan that is updated every five years to confirm the plan's consistency with current and forecasted trends in transportation and land use.

Federal & State Planning Factors

All LRTPs must address the ten federal planning factors included in the Fixing America's Surface Transportation (FAST) Act of 2015. The Erie LRTP addresses the current federal planning factors and aligns with statewide planning policy. The process to develop the LRTP reflects the best practices of PennDOT Connects, a planning policy first introduced in 2016 to maximize the benefits of each project investment for the community and to improve the efficiency of project delivery. This LRTP included extensive public involvement, identification of potential impacts through meetings with various environmental and resource agencies, and close collaboration with interested stakeholders and municipalities.

Local Focus

The most important component in creating a locally meaningful and relevant plan that Erie County citizens and officials can support and take ownership of, is to solicit as much input as possible from a diverse array of local stakeholders throughout the development of the plan. To achieve this goal, the project team conducted an extensive listening tour in mid-2021, gathering information regarding transportation-related concerns and visions for the transportation system in Erie County from municipal officials, stakeholders, and the public. Municipalities and the public in Erie County were invited to participate in a series of drop-in virtual meetings, an online public survey, and an online Wikimap tool that allowed users to communicate location-specific transportation concerns. The Erie County website provided links to these participation opportunities, as well as a link to a YouTube video explaining the LRTP process and contact information for the project team. The survey received 477 responses, while the Wikimap received 387 total comments, plus an additional 15 uploaded photos. The compiled draft went through a second, 30-day public comment period before adoption. The identified local needs were documented and addressed in the LRTP as projects, policies and studies.

2017

March 15th, 2017: Erie MPO Adopts the 2017-2042 Long Range Transportation Plan

2020

October 2nd: Kick-off meeting held for the 2022-2050 LRTP
November-December: Scope, timeline and budget developed

2021

January-March: Public Outreach Plan Developed
April-June: Survey and mapping tool publicized and listening tour conducted (virtually due COVID-19)
July 20th: PennDOT Financial Guidance Released
August-September: Public comments formulated into projects
October-November: Compiled projects were sent to municipalities and authorities to review, edits and additions *new*
November: New projects ranked and fiscally constrained
December 7th: Draft IJJA/BIL financial guidance released by PennDOT
December 30th: Fiscally constrained project list submitted for Air Quality Conformity *new*

2022

January: Draft compiled
January 26th: Agency Coordination Meeting
January 27th-February 25th: Public Comment Period
February 16th: Virtual Public Meeting
February 17th: In-person public meeting
March 9th: MPO Coordinating Committee Meeting to adopt plan

FEDERAL PLANNING FACTORS

1. ECONOMIC VITALITY – Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. SAFETY – Increase the safety of the transportation system for motorized and non-motorized users;
3. SECURITY – Increase the security of the transportation system for motorized and non-motorized users;
4. PERSONAL AND FREIGHT MOBILITY – Increase accessibility and mobility of people and freight;

5. ENVIRONMENT – Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
6. MODE INTERCONNECTIVITY – Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. SYSTEM MANAGEMENT – Promote efficient system management and operation;
8. SYSTEM PRESERVATION – Emphasize the preservation of the existing transportation system;
9. RELIABILITY AND STORMWATER – Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
10. TOURISM – Enhance travel and tourism

To illustrate local priorities, the goals and objectives were organized into seven primary themes that are consistent with the required federal and statewide guidance. The LRTP is organized according to the seven local goal areas:

- Economic Vitality
- Safety & Security
- Multimodal Accessibility & Mobility
- Freight Accessibility & Mobility
- Sustainability & Equity
- Project Feasibility
- Congestion & Maintenance

Transportation System Characteristics

The transportation system in Erie County is characterized by two main types of areas: urban and rural. The urbanized area in downtown Erie consists of a robust grid of streets and traffic signals, with arterial roadways such as Route 5, US 20, and US 19 leading to outlying rural communities and town centers.

The multimodal transportation system in Erie consists of highway infrastructure connecting to three interstates (I-90, I-79, and I-86), trails

and sidewalks, fixed transit routes, a working port, two public use airports, and active rail corridors throughout the county.

Tourism is a major economic driver in Erie County. Key draws to the area are Presque Isle and Erie Bluffs State Parks, conventions, shopping, fishing, wineries, recreational trails, and cultural and historical attractions.

This plan covers the linkage between health and the built environment; to support this, the Erie Travel Demand Model predicts bicycle and pedestrian travel and uses a health performance measure following implementable research from the Erie County Community Health Needs Assessment (CHNA).

Project Identification and Prioritization

Potential projects for the LRTP were identified through a thorough review of planning documents, local studies and municipal and public outreach.

Projects were prioritized according to a ranking of the plan's seven local objectives. The highest priority was safety and security (Exhibit ES-1). The project prioritization process is discussed in detail in Chapter 3.

Exhibit ES - 1 – Project Prioritization Weighting

Project Listing

The preferred scenario includes projects that are well-developed and aim to improve accessibility, mobility, safety, congestion, aesthetics, equity, recreational access, health, and tourism. The recommended projects that were developed through the LRTP update included Highway Projects, Non-Motorized Projects, Betterments, Studies, Local Projects, and Policies (Exhibit ES-2). The LRTP is intended to be a living, breathing document so projects can be added to the listing and reprioritized as needed by the Erie MPO. Further descriptions of LRTP projects can be found in Chapter 4 and Appendix C.

Other planned projects shown in this Plan were developed by the Pennsylvania Department of Transportation (PennDOT), Erie Metropolitan Transit Authority (EMTA), Erie Western Pennsylvania Port Authority and Erie International Airport. These projects are included in Appendix C, labeled as the Highway/Other projects, District Bridges, Transit, Port and Aviation projects. Projects shown in Appendix C were not prioritized or funded through the LRTP.

Exhibit ES - 2 – LRTP Project Location Map

Fiscal Constraint

This plan is required to be fiscally constrained, meaning that it cannot recommend projects that exceed the projected funding available. Although the passage of the Federal Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), provided additional funding, a significant funding gap still exists when compared to the 2017-2042 LRTP (Exhibit ES-3). Reasons for the steep decline in funding from the previous LRTP include Erie MPO's lost eligibility for Congestion Mitigation and Air Quality Improvement (CMAQ) funds and the decline of gas tax revenue, both due to the COVID-19 pandemic as well as the rise of electronic and hybrid vehicles.

In an ideal situation, every project could be funded and built. However, the budget for new projects is limited to what's available after maintaining and operating the existing transportation system, which is aging and requiring more resources at the same time that funding revenues are decreasing. This requires the LRTP project listing be constrained to what is assumed to be available over the life of the plan (Exhibit ES-3). Funding was assumed to remain flat from 2027 onward. Cost estimates were prepared for each project by phase such as preliminary engineering, final design, right-of-way, utilities, and construction. The projects were programmed by phases in order of project prioritization ranking and available funding sources in Appendix A of this plan.

Performance-Based Planning

Federal legislation requires performance-based planning. The Erie MPO and EMTA have adopted targets for safety, asset management, bridge condition, pavement condition and network reliability. These targets are detailed in Chapter 4. New data tools such as the Bridge Asset Management System (BAMS), the Pavement Asset Management System (PAMS), and Highway Safety Network Screening Tool (HSNS) are also impacting the projects prioritized in the county.

Exhibit ES - 3 – LRTP Funding

Chapter 1

Introduction

Overview

The Erie Metropolitan Planning Organization (Erie MPO) is the official organization through which federal transportation funds are distributed, planned, programmed and implemented in Erie County. The Erie MPO operates via an agreement with the Pennsylvania Department of Transportation (PennDOT) to approve studies and capital improvements for highways, bridges, transit, bicycle/pedestrian facilities and other transportation concerns. Voting members include municipal representatives, PennDOT, the Erie Metropolitan Transit Authority (EMTA), Erie Regional Airport Authority, and the Erie Western Pennsylvania Port Authority. Together with the staff at the Erie County Department of Planning and Community Development and the services of Whitman, Request & Associates (WRA), the Erie MPO has updated the Erie County Long Range Transportation Plan (LRTP).

This plan builds on the plan adopted by the Erie MPO in 2017. Discussed here are existing transportation facilities and transportation system needs along with policies, studies and local projects that will help to satisfy those needs. Most importantly, the LRTP prioritizes transportation investments in the county until 2050 with a financially-constrained project listing based on anticipated funding levels.

The vision of this plan is to develop a sustainable transportation system that provides mobility options to all people and the necessary infrastructure to support economic activity and daily life.

The LRTP is a critical tool to help Erie County achieve its vision for the future while ensuring that we grow and invest in transportation in a manner that complements federal and state planning direction. The majority of Federal and state funds that are allocated to Erie County must be dedicated to maintenance of the existing system, requiring the Erie LRTP to focus on implementable projects that make the best use of available funding.

With strategic investments in our current transportation system, Erie County can improve the vitality, safety, and security of the region while providing transportation choices, encouraging sustainability, and focusing on system efficiency and preservation.

Photo Source: Mike Baker

Performance-Based Planning

Federal legislation requires performance-based planning (Exhibit 1). Performance-based planning is a strategic approach that uses data to support decisions that will help to achieve desired outcomes. Federal performance management and performance-based planning is a critical endeavor from PennDOT and the Federal Highway Administration (FHWA). Performance measurement is required by the FAST Act (40 CFR 490). The FHWA final rule for performance measures became effective in June 2016. This rule established the statewide and metropolitan transportation process to support these performance measures.

Data such as condition and deterioration rates are used as tools to identify the status of the current system and then plan for the future, taking action to address issues before they become more costly. Performance Measures (PM) are adopted by the MPO in the following categories:

- Safety (PM-1)
- Pavement and Bridge Condition (PM-2)
- System Performance (PM-3)

The Federal Transit Administration (FTA) also requires Transit Asset Management (TAM) and a transit safety plan and review to be completed.

Exhibit 1 – Performance-Based Planning Flowchart

Performance-based planning is a strategic approach that uses data to support decisions that will help to achieve desired outcomes. In other words, performance measures are used to ensure that the planning process is achieving local goals.

Federal Planning Factors

The Erie County LRTP addresses federal and state planning criteria set forth by the Federal Highway Administration (FHWA) and PennDOT. On December 4th, 2015, President Obama signed the Fixing America's Surface Transportation Act (FAST Act), which outlines the 10 federal planning factors that should be addressed by all LRTPs through projects, plans, or policies. The federal planning factors are described below:

1. Economic Vitality – support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;

2. Safety – increase the safety of the transportation system for motorized and non-motorized users;
3. Security – increase the security of the transportation system for motorized and non-motorized users;
4. Personal and freight mobility – increase accessibility and mobility of people and freight;
5. Environment – protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Mode interconnectivity – enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. System management – promote efficient system management and operation;
8. System preservation – emphasize the preservation of the existing transportation system;
9. Reliability and stormwater – improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and,
10. Tourism – enhance travel and tourism.

State Planning Factors

PennDOT released Pennsylvania 2045 Long Range Transportation Plan in December 2021. This plan analyzed the current state and future of Pennsylvania's various transportation systems. The plan's strategic direction translated the federal planning factors to seven primary Pennsylvania-specific goals, described below:

- A. Safety – enhance safety and security for both motorized and non-motorized modes throughout Pennsylvania's transportation system;
- B. Mobility – strengthen transportation mobility to meet the increasingly dynamic needs of Pennsylvania residents, businesses, and visitors;

C. Equity – improve transportation access and equity throughout Pennsylvania;

D. Resilience – strengthen Pennsylvania transportation’s resilience to climate change and other risks and reduce transportation’s environmental impacts;

E. Performance – improve the condition and performance of transportation assets; and,

F. Resources – structure transportation funding and finance approaches that allocate sufficient resources for system safety, maintenance, preservation, and improvement.

These goals identified a set of performance measures that will be used to track the state’s success in meeting its transportation goals (Exhibit 2).

Exhibit 2 – State Planning Factors

PA LRTP Goal Areas	PA LRTP Performance Measures
Safety	Change in highway fatalities (number and rate) Change in serious injuries (number and rate) Change in non-motorized fatalities and serious injuries Change in number of work zone crashes Change in Airport Hazard Zoning compliance Total number of at-grade rail crossings eliminated
Mobility	Incident clearance time Transit ridership change Keystone Corridor ridership change Congestion/Travel Time Travel time reliability

PA LRTP Goal Areas	PA LRTP Performance Measures
	Rate of Interstate/Non-Interstate reliability Progress – local traffic signal evaluation improvement
Equity	Equity task force established Transportation Equity Summit convened and extent of follow-up Extent of recommendations acted upon from PennDOT’s “Dismantling Systemic Racism and Inequity” (DSRI) report Number and percentage of ADA-accessible stations along Keystone Corridor Extent of diversity on transportation advisory bodies over time
Resilience	Emissions reduction Average incident clearance time Average incident influence time Weather impacts mitigation capabilities over time Percentage of recycled pavement over time Number of electric vehicle charging stations over time
Performance	Percentage of NHS Interstate pavement in good condition/poor condition Percentage of NHS Non-Interstate pavement in good condition/poor condition Percentage of total bridge deck area in good and/or poor condition Development of outcome-oriented Transit Performance Measures
Resources	Transportation Revenue Options Commission (TROC) strategic funding proposal implemented in its entirety or modified TROC annual funding targets – extent to which targets are being achieved Extent and variety of public-private partnerships across modes Qualitative assessment of mileage-based user fee (MBUF) preparation and readiness On-time, on-budget project delivery rate Establishment of asset management training for districts and MPOs/RPOs

PA LRTP Goal Areas	PA LRTP Performance Measures
	PennDOT Connects progress and results as reflected in periodic progress reports

PennDOT Connects

PennDOT Connects is a planning policy first introduced by PennDOT in 2016 designed to maximize the benefits of each project investment for the community, and to improve the efficiency of project delivery. PennDOT acknowledges that a common issue in many projects is a lack of thorough collaboration with the community during project planning, leading to missing crucial elements during scoping which results in project delays and higher costs when they are discovered. Early collaboration and community input are needed to address this issue.

PennDOT Connects requires local governments be given a chance to collaborate through the PennDOT Connects Portal or through in-person meetings. This process begins when projects are added to the LRTP and continues when projects are programmed on the 4-year Transportation Improvement Program (TIP).

The objective is to fully consider all features for projects in planning before projects are programmed. Specific areas include, but are not limited to:

- Problem analysis
- Land use and economic development
- Community issues and opportunities
- Environmental screening and impacts
- Conceptual engineering
- Design criteria
- Traffic control measures

Local Emphasis

Listening Tour

The most important component in creating a locally meaningful and relevant plan that Erie County citizens and officials can support and take ownership of is to solicit as much input as possible from a diverse array of local stakeholders and use it to develop the plan. This approach is directly in line with PennDOT Connects policy. To achieve this goal, the project team conducted an extensive listening tour in mid-2021, gathering information regarding transportation-related concerns and visions for the transportation system in Erie County from municipal officials, stakeholders, and the public. The results of the outreach are discussed further in Chapter 2. This outreach effort allowed the plan to put a local, Erie-centered emphasis on the federal and statewide guidance and determine how targeted transportation investments can help Erie meet its goals.

COVID-19

The COVID-19 pandemic had a significant impact on outreach. Meetings and interviews that would have otherwise been held in person were conducted virtually. Electronic communication methods were expanded to include a website, social media advertisement, a YouTube video, an online survey, and a Wikimap.

Municipal Officials & Public Outreach

Municipalities and the public in Erie County were invited to participate in a series of drop-in virtual meetings held in mid-May 2021. Targeted email invitations for the drop-in meetings were sent to specific stakeholder groups, including:

- 2017 LRTP survey participants
- All 38 municipalities, plus local and state elected officials
- Environmental stakeholders
- Freight stakeholders, including farming organizations
- Environmental Justice stakeholders, including tribal contacts
- PennDOT local and state programming staff
- Active transportation stakeholders
- Economic stakeholders

Project Website

The Erie County website provided information on the previous LRTP, a link to a YouTube video explaining the LRTP process, information

on a public survey, the Wikimap tool, drop-in meeting information, and contact information for the project team.

Transportation Survey & Wikimap

In addition to the drop-in meetings, the public was also invited to participate in a transportation survey and Wikimap as another avenue to help guide the plan. The online survey and Wikimap were live for six weeks in May/June 2021 and were advertised in the Erie Times News, on local news stations and radio stations, on the county library's social media, through flyers on buses and through Erie County's social media. A paper version of the transportation survey was made available at the Erie County Planning Offices on the Bayfront. Translation services were offered for all MPO-related material upon request.

The survey received 477 responses from residents. The survey gathered information such as the resident's home, work, and school zip codes, their access to common destinations such as health care, fresh food, and parks/greenspace, their rating of the importance and condition of available infrastructure, and how much they would spend on categories such as preservation, bicycling, and economic support. Respondents could voluntarily provide contact information for further follow-up and invitations to upcoming public meetings.

The Wikimap (Exhibit 3) received 387 total comments, plus an additional 15 uploaded photos. The Wikimap allowed participants to drop points on the map and describe issues related to:

- Traffic concerns
- Pedestrian concerns
- Bicycling concerns
- Transit concerns
- Safety concerns
- Land use / development concerns
- Freight concerns
- Stormwater concerns
- Other concerns or ideas

Summaries of the survey and Wikimap results are included in Appendix B.

Exhibit 3 – Erie County LRTP 2050 Wikimap

Planning Organizations

Additional planning organizations were engaged by means of targeted interviews due to their expertise in specific components of transportation and related areas. Interviews were conducted virtually, and included:

- Erie Area Council of Governments
- City of Erie Mayor's Business Council
- MPO Technical Advisory Committee
- City of Erie Neighborhood Growth Partnership
- Erie Redevelopment Authority
- Erie County Planning Commission
- Pennsylvania Historical and Museum Commission
- City of Erie Planning Commission
- PennDOT District 1-0 Safety, Bridge & Programming Units
- City of Erie Mayor's Disability Roundtable
- New American Council

Draft Document Comment Period

A compiled draft was made available for public comment before adoption. This 30-day public comment period lasted from January 27th to February 25th, 2022. It was advertised with a legal add, press release, Facebook posts and on the project website. During this time two public meetings were held. A virtual meeting was conducted from noon to 2:00pm on February 16th. A pre-recorded presentation was shown followed by open discussion and breakout rooms to discuss specific project groups. The presentation video was made available on YouTube for those who could not attend the meeting. A second meeting was held in-person from 4:00pm to 6:00pm at the Blasco Memorial Library.

Comments received during this period were compiled and integrated into the text where feasible. The final MPO meeting to adopt the plan also was open for additional comments from the public and the board before adoption.

Summaries of the survey and Wikimap results are included in Appendix B.

Both a virtual and an in-person public meeting were held during the draft public comment period. A video describing the draft was also created for those who were unable to attend the meetings.

Erie County Goals & Objectives

The goals and objectives of the LRTP are organized based on seven major categories, providing local emphasis while aligning with the federal and state planning factors. The main goals of the LRTP are focused around improving the quality of life and economic vitality of Erie County. They prioritize maintaining and improving the condition of existing infrastructure and investing in targeted multimodal improvements to enhance safety and accessibility. A set of measurable objectives are laid out following each goal to help Erie County achieve its vision for the future.

Economic Vitality

Goal – Ensure that transportation investments support the economic vitality of Erie County and enable regional and global competitiveness, productivity, and efficiency, as well as enhance reasons to consider Erie County for businesses and travelers.

Objectives:

- Improve access to targeted investment areas and planned development to support job growth, freight access, and employee retention
- Improve access to the interstate
- Support revitalization efforts
- Improve multimodal access to tourist attractions
- Enhance multimodal recreational opportunities for residents and visitors

Safety & Security

Goal – Increase the safety and security of the transportation system for all users.

Objectives:

- Reduce the number of motorized and non-motorized crashes
- Reduce hazard potential in school zones, at highway-rail crossings, and other sensitive locations
- Improve safety, reliability, and accessibility along emergency detour routes
- Improve emergency response time

Multimodal Accessibility & Mobility

Goal – Improve the integration and connectivity of the transportation system across modes to increase accessibility and mobility options for people.

Objectives:

- Improve walking and bicycling accessibility
- Improve public transportation and ride-share accessibility

Freight Accessibility & Mobility

Goal – Improve the integration and connectivity of the transportation system across modes to increase accessibility and mobility options for freight.

Objectives:

- Improve freight services for air, rail, waterborne transportation

Sustainability & Equity

Goal – Ensure that transportation investments protect and enhance natural and historic resources and ensure equitable access to all Erie County residents.

Objectives:

- Reduce impacts to environmental, natural, and cultural resources
- Ensure the equity of transportation investments
- Improve the health, quality of life and accessibility to jobs and resources for under served populations
- Combat climate change and improve the resiliency of transportation infrastructure

Project Feasibility

Goal – Streamline project implementation and improve project delivery.

Objectives:

- Support locally-derived land use and transportation planning projects
- Improve the linkage between municipal plans, planning studies, and project development
- Ensure that right-of-way, utility, and railroad coordination dare conducted early in the planning process

Congestion & Maintenance

Goal – Ensure efficient system management and operations that emphasize preservation of the existing transportation system and the correction of existing deficiencies.

Objectives:

- Improve vehicular efficiency and reduce congestion
- Address one or more maintenance or operational deficiencies such as sidewalk gaps, poor maintenance, poor traffic signal coordination, or lack of stormwater infrastructure.

Exhibit 4 compares the federal planning factors to the LRTP's goals.

Photo Source: USFWS Wetlands of Pennsylvania's Lake Erie Watershed

Exhibit 4 – Federal Planning Factors vs LRTP Goals

	LRTP Goals						
	Economic Vitality	Safety & Security	Multimodal Accessibility & Mobility	Freight Accessibility & Mobility	Sustainability & Equity	Project Feasibility	Congestion & Maintenance
FAST Act MPO Planning Factors							
Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.	X					X	X
Increase the safety of the transportation system for motorized and non-motorized users.		X					X
Increase the security of the transportation system for motorized and non-motorized users.		X					
Increase accessibility and mobility of people and for freight.	X		X	X		X	
Protect and enhance the environment, promote energy conservation and improve quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.					X		
Enhance the integration and connectivity of the transportation system, across and between modes for people and freight.	X				X	X	
Promote efficient system management and operation.						X	X
Emphasize the preservation of the existing transportation system.					X		X

Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.					X	X	X
Enhance travel and tourism.	X						

Chapter 2

Transportation System and Needs

A goal of this plan was to take inventory of the transportation system and investigate the transportation needs of residents, visitors and businesses. The following chapters are organized by the seven local goal areas discussed in Chapter 1 and explain how Erie County's transportation system stands in regard to those goals. The goal areas are:

- Economic Vitality
- Safety & Security
- Multimodal Accessibility & Mobility
- Freight Accessibility & Mobility
- Sustainability & Equity
- Project Feasibility
- Congestion & Maintenance

Economic Vitality

The economic vitality of Erie County is tied to numerous factors, which include its geographic location, population, employment, land use, and tourism generators. However, at the time of this plan the COVID-19 pandemic is still playing a role in the County's economy. Shut-downs, supply chain delays, inflation and worker shortages are some of the problems facing the current economy. In addition, the Federal pandemic relief measures have impacted local business such as Coronavirus Aid, Relief, and Economic Security (CARES) from March 2020 and American Rescue Plan from March 2021. It is too early to determine the long range economic impact of these changes.

As part of this long range plan, the project team reached out to the Mayor's Business Council for the City of Erie, the Erie Western Pennsylvania Port Authority, the Erie Regional Chamber and Growth Partnership and the Erie County Redevelopment Authority. Despite the pandemic, leaders were optimistic about the future economic vitality of the region citing COVID-19 relief funds, the region's first Amazon Warehouse and the City of Erie's LERTA tax abatement program.

Location

Erie County is in the northwest corner of the state and encompasses the entire Great Lake shoreline in Pennsylvania (Exhibit 5). While

the commercial fishing industry and the Lake Erie Extension Canal no longer drive the economy, the Erie Western Pennsylvania Port Authority exports and receives about 675,000 tons of goods annually.

In addition to the port, Erie County is located at a critical point between land and rail routes. The county is a two hour's drive from major markets in Pittsburgh, Buffalo, and Cleveland, as well as Canada, and has been gaining visibility in recent years as a regional tourist destination by leveraging its natural resources to provide recreational opportunities for visitors and residents alike.

Exhibit 5 – Location Map

Population

From 1950 through 1980, Erie County's population increased at a greater rate than the state average. However, as in much of Western Pennsylvania, changes in the region's economy due to the declining steel industry contributed to a dramatic shift in the county's growth rate. Since 1980, population in the county had been relatively stable. As the City of Erie lost population, the surrounding areas grew. However, the most recent census data from 2020 shows countywide declines in population with a total of only 270,876 people (Exhibit 6).

Despite the decline in population, Erie County's urban core is still the City of Erie surrounded by dense municipalities such as Millcreek Township, Lawrence Park Township and Wesleyville Borough (Exhibit 7). While much of the rest of the County is more sparsely populated, there are pockets of historic density in smaller municipalities such as the City of Corry, Edinboro, North East and Union City (Exhibit 8). Municipalities experiencing more recent suburban growth through retail expansion and housing subdivisions include Harborcreek Township, Fairview Township and Summit Township.

In addition to population density in the City of Erie, smaller municipalities retain historic density, such as the 14 county boroughs.

Exhibit 6 – Erie County Population Trends

Exhibit 7 – Population Density (Countywide & City of Erie)

Exhibit 8 – Population Density (Smaller Municipalities)

Understanding where population growth is likely to occur is a key step to identifying the future transportation needs of Erie County. Future population forecasts were based on what is commonly referred to as the cohort survival method which tracks projected births, deaths, in-migration, and out-migration. These forecasts were also compared to forecasts from Woods and Poole Economics forecasts which provide a reasonable benchmark for comparison. Based on the comparison of various assumptions on birth, survival, and migration rates, it is clear that the key to growth in Erie County is to maintain a strong economy that will sustain and increase employment opportunities in order to maintain and attract new residents.

More substantial population growth is predicted to occur in Summit Township and Millcreek Township, with some mild growth in downtown Erie, and a mild decrease in population in some of the outlying communities due to aging populations (Exhibit 9).

Exhibit 9 – Population Forecasts

Municipality	2020	2050	Change
Albion Borough	1,528	1,481	-3%
Amity Township	985	1,017	3%
Concord Township	1,277	1,268	-1%
Conneaut Township	4,191	4,404	5%
City of Corry	6,210	6,131	-1%
Cranesville Borough	570	551	-3%
Edinboro Borough	4,964	5,141	4%
Elgin Borough	204	200	-2%
Elk Creek Township	1,786	1,836	3%
City of Erie	94,831	96,763	2%
Fairview Township	11,138	12,056	8%
Franklin Township	1,508	1,612	7%
Girard Borough	2,993	3,020	1%
Girard Township	4,869	4,998	3%
Greene Township	4,478	4,606	3%
Greenfield Township	1,803	1,835	2%
Harborcreek Twp.	16,635	18,013	8%
Lake City Borough	2,935	3,082	5%
Lawrence Park Twp.	3,820	3,693	-3%

LeBoeuf Township	1,659	1,674	1%
McKean Borough	476	440	-7%
McKean Township	4,437	4,689	6%
Mill Village Borough	388	377	-3%
Millcreek Township	54,073	57,374	6%
North East Borough	4,106	4,030	-2%
North East Township	6,529	6,868	5%
Platea Borough	442	422	-4%
Springfield Township	3,076	3,142	2%
Summit Township	7,342	8,020	9%
Union Township	1,541	1,559	1%
Union City Borough	2,927	2,738	-6%
Venango Township	2,256	2,193	-3%
Washington Township	4,393	4,809	9%
Waterford Borough	1,476	1,428	-3%
Waterford Township	3,915	3,953	1%
Wattsburg Borough	353	337	-4%
Wayne Township	1,540	1,478	-4%
Wesleyville Borough	3,222	3,090	-4%

Erie Insurance, the largest employer in Erie County, creates jobs that sustain and increase the population.

Employment

At the time of this plan, the COVID-19 pandemic was still affecting employment. At the beginning of the pandemic in early 2020, the unemployment in the County reached a staggering 17.5% from only 4.4% a year earlier in 2019. County unemployment had rebounded to only 6.2% at the time of this plan according to the Pennsylvania Department of Labor and Industry.

The top 10 employers by employment in the 2nd quarter of 2021 were:

- Erie Indemnity Co (Erie Insurance)
- UPMC Hamot (Hospital)
- PA State Government
- Wal-Mart Associates Inc
- Saint Vincent Health Center (Hospital)
- Wabtec US Rail Inc (formally GE)
- Federal Government
- School District of the City of Erie
- Erie County Government
- Dr. Gertrude A Barber Center Inc.

Over 23% of jobs in Erie County are in Health Care and Social Assistance sector. Erie County is well positioned for growth in healthcare with six institutes of higher learning, eight major medical facilities, and the Lake Erie College of Osteopathic Medicine (LECOM). The tourism industry remains strong with area attractions receiving over 11 million visitors annually, comprising a \$1.2 billion industry in Erie County. Overall, it is anticipated that employment in Erie County will be relatively stable between 2010 and 2050. The largest projected growth is in the Health Care sector with a 13% increase by 2031. Growth of 2% is also anticipated in Finance & Insurance as well as the Accommodation & Food Services Sectors (Exhibit 10).

Exhibit 10 – Employment Forecasts

NAICS Sector	2021	2031	Change
Construction	4,863	4,508	-7%
Manufacturing	18,148	15,774	-13%
Retail	13,280	11,497	-13%
Finance & Insurance	5,763	5,881	2%
Education	3,991	3,261	-18%
Health Care	25,696	29,119	13%
Accommodation & Food Services	8,872	9,074	2%
Other Services	5,762	5,354	-7%
Government	15,712	15,893	1%
All Others	19,891	19,383	-3%
Total	121,977	119,744	-2%

Land Use

Erie County is made up of 38 distinct municipalities with individual land use patterns defined in land use ordinances. Land use planning ensures that industry can grow in an appropriate area, that residential property values are preserved and not negatively impacted by nearby land uses, and vacant or blighted properties can be repurposed in meaningful ways to the community. More thorough discussion on land use, housing stock, and implications can be found in municipal planning documents. A good example of municipal land use planning can be found in the City of Erie's Erie Refocused: Comprehensive Plan and Community Decision-Making Guide.

Existing land use/land cover for Erie County (Exhibit 11) shows the pockets of urbanized cores, agricultural land use, as well as industrial and residential development clustered around interstate access and rail amenities. Future land use plans show targeted growth areas, as well as land reserved for conservation, open space in flood plains, and recreation (Exhibit 12).

Exhibit 11 – Existing Land Cover

Exhibit 12 – Future Land Use

Tourism

Erie County's tourism was significantly impacted by the COVID-19 pandemic, but many stakeholders were confident that the industry will rebound and be stronger than before the pandemic.

Tourism is a \$1.2 billion industry in Erie County due to its natural resources and recreational focus, retail opportunities, convention capacity, and family-friendly attractions. Frequent destinations for local and countywide tourism are shown in Exhibit 12. These resources are of utmost importance to the quality of life for Erie residents and the economic vitality of the county. Its residents want to protect and enhance existing resources for use by residents, as well as visitors drawn from regional tourism markets, which include the greater metro areas of Cleveland, OH , Pittsburgh, PA, and Buffalo, NY. All three of these areas are within 100-150 miles of the county.

Erie County boasts over 100 municipal parks and playgrounds, 15 separate State Game Lands which collectively encompass 16 square miles, and two State Parks. Presque Isle State Park alone receives an estimated 4.2 million visitors annually. It is a 3,200 acre sandy peninsula that extends into Lake Erie offering residents and visitors free admission to numerous recreational activities, including swimming, boating, fishing, hiking, and bicycling. The Tom Ridge Environmental Center, also located at the entrance to the park, offers 7,000 square feet of exhibits that highlight Presque Isle's history, and a glass-enclosed 75 foot tower providing spectacular views of Lake Erie. Erie Bluffs is Erie County's newest State Park, encompassing over 500 undeveloped acres along the Lake Erie shoreline in western Erie County. More information about recreation opportunities in the county can be found in the 2020 Erie County Parks, Trails and Recreation Plan.

The unique natural habitats in Erie County are also a draw for fishing, wildlife watching and hunting. Erie is home to high-quality trout streams (both stocked and wild reproduction) and attracts anglers for its world-class steelhead fishing, with an economic impact estimated at \$5.71 million value-added annually by a 2004 study by PFBC. Public access maps are available Online through Pennsylvania Fish and Boat Commission. French Creek in the south central portion of the county is a high-quality water trail with excellent boating and fishing opportunities. Forming part of the headwaters of French Creek, Lake Pleasant is considered the finest example of a natural, glacially formed inland lake in Northwest Pennsylvania.

Erie County 's natural resources bring visitors to the area.

Fishing draws visitors from around the world to Erie County.

Exhibit 13 – Tourist Destinations

Active transportation considers multiple modes of transportation, such as walking, biking, and rolling. Various mobility options benefit residents and visitors. Three Erie County municipalities—City of Corry, City of Erie and Union City Borough—created active transportation plans in 2021 to identify the needs of non-motorized travel. Getting around by bicycle continues to get easier with the growing number of bicycle routes, trails, and paths throughout the county. Erie County and community partners such as Bike Erie are making great strides towards making bicycling more viable and convenient as a mobility choice and tourism draw. The county is currently spearheading a study to assess viable options to connect the City of Corry to the City of Erie's northern terminus of the Erie to Pittsburgh Trail through an internal Erie County bike route. These bike routes and multi-use paths are depicted in Exhibit 19 later in the chapter.

PA Bicycle Route Z, which overlaps with Route 5 and the Great Lakes Seaway Trail National Scenic Byway, runs through the City of Erie along the bayfront and Lake Erie.

PA Bicycle Route Y runs from the Ohio border at Pymatuning Lake in Crawford County east to the New York border at the Delaware River in Lackawaxen, Pike County. The route roughly follows historic Route 6 and passes through the Pennsylvania Route 6 Heritage Area. In 2018, Route Y was incorporated into U.S. Bicycle Route 36.

PA Bicycle Route A runs from the West Virginia border south of Mount Morris in Greene County north to Presque Isle State Park.

The Bayfront Bikeway, which connects to Route Z as well as the 13-mile multi-use trail at Presque Isle State Park, is a multiuse path that is approximately 9 miles long and runs from the Lake Erie Arboretum at Frontier Park to Penn State Behrend's campus.

The Bayfront Promenade is a one-mile multi-use path along the bluffs which overlooks the bayfront and Lake Erie. It's one of the best places to watch sunsets and listen to concerts happening at Liberty Park Amphitheater. It starts along the south side of the Bayfront Parkway at the intersection with State Street, heading west.

Many trails have informational signage like this one on in Presque Isle State Park describing historical events.

Photo Source: Mike Baker

National routes that traverse Erie County include: 1. the Northern Tier Bicycle Route (4,265 miles), our nation's longest route 2. the Underground Railroad Bicycle Route (2,006 miles), and 3. the Underground Railroad Pittsburgh Spur (153 miles). More information can be found at www.adventurecycling.org.

The Corry Junction Greenway Trail extends from the City of Corry north into New York State. It is the longest leg of the Erie to Pittsburgh Trail completed in Erie County. The nearly six-mile path is a project of the Northwest PA Trails Association.

The full Erie to Pittsburgh Trail is a work in progress that began in 2006 with the Pennsylvania Department of Conservation and Natural Resources feasibility study "Three Rivers to One Great Lake." When completed, the network will connect the Erie bayfront at Dobbins Landing to Point State Park in Pittsburgh and will form part of the larger Industrial Heartland Trails Coalition. The Erie to Pittsburgh/PA Wilds Gap Assessment Report was completed by the Pennsylvania Environmental Council in 2020 showing the links still needed to form the trail, many of which exist in Erie County.

Erie County's unique microclimate on the lake makes conditions particularly great for grape growing. Erie County has over a dozen vineyards operating as part of Lake Erie Wine Country. There is also a growing number of distilleries, meaderies, and microbrewing companies in Erie County, and there is a trail just for beer drinkers. The Lake Erie Ale Trail features 15 breweries in Erie County and the surrounding region, each with its own unique flavor.

Another important component of Erie's economy is retail tourism. It is not uncommon to see buses arrive from Canada, Ohio, and New York at the Millcreek Mall and Upper Peach Street, where brand name retailers abound. Deficiencies in Peach Street Corridor have been identified in the Edinboro Road Study in 2018, by Summit Township, Millcreek Township and the general public. Traffic congestion, confusing geometry, safety and lack of pedestrian infrastructure were all identified as needs that would benefit this area.

Erie County offers residents a variety of entertainment opportunities. The Erie County Convention Center Authority owns and operates four multi-use venues in downtown Erie, including the Bayfront Convention Center, UPMC Park, Erie Insurance Arena, and the historic Warner Theatre, which frequently host conventions and special events, cultural performances, and athletic events for the Erie Otters (Ontario Hockey League) and Erie Seawolves (Eastern League AA Baseball). Other sport and event venues include the Lake Erie Speedway, ErieBank Sports Park, and the region's colleges and universities. Southeast of the mall complex, one interchange away on I-90, is Presque Isle Downs and Casino which attracts nearly three million visitors annually per 2009 numbers.

Erie County is home to a diverse range of arts, culture, and entertainment resources. These resources include, but are not limited to, large organizations and venues in downtown Erie, heritage venues and sites in many communities, colleges and universities with arts and cultural programming, church-based cultural activities, arts councils, ethnic communities and traditions, and artists representing a wide range of disciplines. These resources contribute to the region's identity, economy, and quality of life.

Family-friendly attractions in the area include Waldameer Park & Waterworld, the Erie Zoo & Botanical Gardens, Splash Lagoon Indoor Waterpark, expERIEnce Children's Museum, Erie Art Museum, Erie Playhouse, Hagen History Center, Erie Philharmonic Orchestra, and the Raymond M. Blasco Memorial Library and Erie Maritime Museum and US Brig Niagara. For an extensive listing of Erie County attractions, visit VisitErie.com and download a visitor's guide.

There are more than 50 wide-ranging festivals and events occurring annually in Erie County. Some of the more notable summertime community happenings include the following events: Lake City Fire Company Carnival, North East Firemen's Cherry Festival, Discover Presque Isle, Girard Dan Rice Days, Celebrate Erie, Erie County Fair in Wattsburg, Waterford Community Fair, Albion Area Fair, and Edinboro Highland Games.

The number and availability of ethnic festivals are of special note. Conveniently located on the shores of a Great Lake, Erie County has long been considered a prosperous region to settle for generations of immigrants from across the globe. Old and new immigrants alike honor their rich cultural histories through community outreach and cultural education. Annual festivals and events serve as celebrations of the rich ethnic diversity of our community. The Troika Russian Festival, Asian Festival, Italian Festival, Zabawa Polish Festival, Panegyri Greek Festival, German Heritage Festival, Slavic Festival, and Erie Irish Festival allow citizens the opportunity to experience and enjoy ethnic entertainment and traditions.

Wineries contribute to Agritourism in the northeastern part of the County.

Summer festivals and events draw locals and visitors alike.

Fairs and festivals throughout the county, such as the Albion Fair, are important to showcase agricultural and community traditions.

Safety & Security

Transportation safety and security are federal planning factors that ensure public safety through planning for improvements to high-crash locations, safety at school zones and rail crossings, emergency vehicle accessibility and assessment of emergency detour routes from the interstate. Pennsylvania has established targets to the following safety performance measures: 1) Number of fatalities 2) Rate of

fatalities per 100 million Vehicle Miles Traveled (VMT) 3) Number of serious injuries 4) Rate of serious injuries per 100 million VMT 5) Number of non-motorized fatalities and serious injuries.

Federal Highway Administration (FHWA) highly supports and encourages a collaborative and coordinated process to review and analyze crash data on state and locally owned roads in order to identify locations to conduct safety field views. The safety review process can also be a useful way to bring further attention to the various Priority Safety Focus areas in the Pennsylvania Strategic Highway Safety Plan, and implementation activities. For highway projects that are the result of safety concerns, FHWA recommends that Roadway Safety Audits (RSA) should be performed to pinpoint exact improvements to be made to the intersection.

The RSA should be performed by a multi-disciplinary team independent of the project to consider all road users and account for road user capabilities and limitations, culminating in a formal RSA report. The field views may also involve local police, local elected officials, county planners, municipal roadmasters, PennDOT County maintenance personnel, and others (such as freight stakeholders) in order to have the advantage of input from those different perspectives. Frequently these reports lead to recommended improvements that a traditional safety review may not discover, and these low-cost improvements may show successful reductions in crash frequency and severity. Some DOTs report that performing a RSA in the conceptual or preliminary design phases of a planned project brings about the most benefit. As projects are selected for implementation, the project sponsor should consider pursuing a formal RSA to ensure appropriate safety measures are completed. The field view portion of the safety review process helps to better understand the driving conditions and driver behavior, and aids in the brainstorming to develop potential solutions to address safety problems. This collaborative approach is fully consistent and complementary to the PennDOT Connects Policy.

An example of a safety improvement that could be used throughout Erie County on a number of corridors is the Road Diet, illustrated in the images below. A classic Road Diet typically involves converting an existing four-lane, undivided roadway segment to a three-lane segment consisting of one through lane in each direction and a center, two-way left-turn lane. FHWA reports that the resulting benefits include a crash reduction of 19 to 47 percent, reduced vehicle speed differential, improved mobility and access by all road users, and integration of the roadway into surrounding uses that results in an enhanced quality of life. A key feature of a Road Diet is that it allows reclaimed space to be allocated for other uses, such as turn lanes, bus lanes, pedestrian refuge islands, bike lanes, sidewalks, bus shelters, parking or landscaping.

Source: FHWA

Example of a Road Diet to enhance safety, mobility, and access for all road users and a “complete streets” environment

Crash History

New for 2021, PennDOT has implemented the Highway Safety Network Screening (HSNS) tool. HSNS investigates the reported amount and type of crashes along roadway segments and intersections, and assigns a cost to remediate the safety issue.

A cost that is negative or flat indicates that the observed number and type of crashes are not excessive, and the cost to mitigate those crashes would have a benefit that is lower than the cost itself. A cost that is positive indicates that the observed number and type of crashes are excessive, and the cost to mitigate those crashes would have a benefit more than the cost itself.

Only roadways and intersections with an positive cost are eligible for Highway Safety Improvement Program (HSIP) funding as part of the LRTP.

School Zone Safety

Some of the youngest users of the county's transportation system can be found walking, riding a bicycle, or riding a bus to and from school. Traffic congestion, speeding, and driver inattentiveness coupled with the inexperience of school-aged children can create hazardous interactions. The maintenance and improvement of school zone safety in the county is imperative (Exhibit 14). Projects that enhance sidewalks and crosswalks, signing, pavement markings, lighting and traffic signals, or narrow crossing distance all help to calm traffic and improve safety.

The City of Erie School District is the school district with the most students who walk. The City has recently made improvements for student mobility including filling sidewalk gaps and widening waiting areas at intersections. In partnership with the United Way and the Erie Community Foundation, the City of Erie identified and marked walking routes to community schools. Yellow reflective markers showing the paths were placed on utilities poles so that both vehicles and pedestrians can clearly see them.

Opportunities to improve school zone safety should be emphasized over time. While these issues could be addressed with standalone projects, in many cases it may be more practical or efficient to incorporate relevant aspects into more broadly scoped projects such as corridor improvements or betterments, streetscaping initiatives, or traffic signal improvement programs. Examples of these improvements include speed limit monitoring, increasing adult crossing guard presence, public education about speed limit and injury impacts, education about pedestrian etiquette for both drivers and pedestrians, school zone flashing lights on at proper times. PennDOT offers a variety of resources to assist municipalities and school districts create safe, convenient and healthy opportunities for students to walk and bike to school. Technical and financial assistance can be found on PennDOT's Safe Routes to School website.

Rail Crossings

Based on a 2021 inventory by the US Department of Transportation's (USDOT) Federal Railroad Administration (FRA), approximately 158 public at-grade highway-rail intersections were identified in Erie County. Conditions at these crossings (e.g., the historic number of accidents, types of warning devices, daily train volumes, or daily highway crossing volumes) can be reviewed via the FRA's Web Accident Prediction System (WBAPS). The WBAPS data is not intended to rank crossings as most to least dangerous. WBAPS is a tool that can help guide financial resources based on forecasted collisions.

Future planning efforts should embrace or explore local knowledge, site planning, potential traffic pattern changes, crossing volume reductions, and data sources such as the FRA's WBAPS model, to give special attention to ensure and improve safety at all of the county's highway-rail crossings. Such efforts will help to apply scarce highway-rail crossing resources where they might be best utilized.

There are 498 rail crossings in Erie County. While some of the crossings are separated from traffic with bridges or underpasses, many more require drivers, pedestrians and others to cross over the tracks in the roadway surface, creating the potential for collisions.

Emergency Management

Potential investments that would improve transportation safety, security, and emergency management include I-90 detours, railroad interaction, and low clearance bridges (Exhibit 15).

Various natural hazards and manmade hazards can affect the security of the transportation system. Erie County last completed its County Hazard Mitigation Plan in 2018; according to the Hazard Mitigation Plan, the history of previous disaster declarations in Erie County were due to hurricanes, flooding, blizzards, and tornadoes. Natural hazards in Erie include coastal erosion, drought, minor earthquakes, floods, invasive species, landslides, tornados, winter storms, and seiches.

While all hazards have some possibility of occurring, a unique and possibly fatal hazard that coastal residents and businesses of Erie County experience is shoreline erosion and bluff recession; properties, buildings, and roadways within an inadequate setback distance are at risk for damage or complete destruction of property, and if properties are occupied at the time of an avulsion event, loss of life or injuries. Pennsylvania last completed its Standard State All-Hazard Mitigation Plan in 2013; according to the All-Hazard Mitigation Plan, the municipality with the highest percentage of housing stock within the 100-year erosion hazard area is Millcreek Township, comprising 41.9% of the buildings in Erie County's erosion hazard area. Care must be taken to account for these setback distances when evaluating future land use and transportation alternatives. While the Bluff Recession and Set Back Act is a state law enforced by the Pennsylvania Department of Environmental Protection, Erie County assists with monitoring bluff erosion and manages the local Coastal Zone

Management (CZM) steering committee.

During colder weather months, residents of Erie County are likely to experience winter weather hazards such as lake effect snow, ice, blizzards, and extreme cold. Snow is a common hazard to the transportation system, as Erie County experiences heavy snowfall over 2,068 lane miles of snow, as reported by PennDOT District 1-0's 2021 Report Card. Weather-related traffic accidents on I-90 can frequently lead to pile-ups on the interstate, in addition to full closures that divert traffic onto emergency detour routes (Exhibit 16). Potential transportation related solutions could be variable message signs, changeable speed limits dependent on weather conditions, improved pavement retro-reflectivity, and improvement of intersections and bridges along detour routes.

Winter weather creates dangerous conditions for travel.

Photo Source: Mike Baker

Exhibit 15 – Bridges with Low Clearance

Exhibit 16 – Emergency Detour Routes

Multimodal Accessibility & Mobility

Perhaps one of the most obvious factors when it comes to a long range transportation plan would be multimodal accessibility and mobility. In this section, the automobile, pedestrian and bicycle, public transportation, aviation, and port modes and their interactions are examined in detail. Multimodal accessibility and its impact on quality of life and economic competitiveness are an important early consideration in the PennDOT Connects planning policy, ensuring that project scoping accounts for these and improves them where reasonable.

Automobile

The automobile system in Erie County consists of three interstates: I-90 running east-west connecting through Ohio, New York, and beyond, I-79 with its northern terminus at Erie's Bayfront Parkway connecting southward to Pittsburgh, and I-86 beginning in Greenfield Township and running eastward through New York. The roadway system in Erie County contains a significant percentage of National Highway System (NHS) routes, which are identified as being critical to the national freight network and as such, may qualify for special funding for roadway improvements such as the National Highway Performance Program (NHPP).

There is also a robust system of state and locally owned primary arterials, collectors, and local roadways. The Federal Surface Transportation Block Grant Program (STP) funds can be used for both state and locally owned collectors and arterials. But, it is important to note that in most cases Federal funding cannot be used to repair or maintain local roadways. In addition to NHS routes, roadways eligible for state and federal funding are owned by the state or are designated as “Non-State Federal Aid” routes (Exhibit 17). Erie County also has numerous local roads, including gravel roads serving rural areas, which are owned and maintained by the local municipalities. Erie County’s roadways are also classified according to their function as interstate highways, arterials, collectors and local roadways (Exhibit 18).

The Average Daily Traffic (ADT) map shows the daily number of vehicles traveling over the roadway in both directions. ADT traffic volumes can give perspective on which roadways are the most traveled, though not necessarily the most congested (Exhibit 19).

Level of Service (LOS), shown for 2019 in Exhibit 20 and forecasted to 2050 in Exhibit 21, indicates congestion at intersections and along roadways as estimated by the Travel Demand Model. LOS “A” means excellent free-flowing traffic operations, where LOS “F” means very congested, poor operations.

Photos Source: Mike Baker

Exhibit 17 – Roadway Network

Exhibit 18 – Roadway Functional Classification

Exhibit 19 – Roadway ADT

Exhibit 20 – Erie 2019 Baseline Congestion

Exhibit 21 – Erie 2050 Future Congestion

Non-Motorized Transportation

Mode interconnectivity and personal mobility are the Federal planning factors that warrant a detailed investigation of non-motorized transportation infrastructure. For bicyclists and pedestrians, infrastructure can include sidewalks, trails, bicycle lanes, or wide shoulders to provide accessibility and mobility options. Segments of the population that would benefit from mode interconnectivity and personal mobility are those with a low socio-economic status, students in school districts with limited busing, and those with impaired driving abilities.

Most urbanized areas within Erie County have robust sidewalk infrastructure, though many are in need of upgrades, or have notable gaps at property lines or rail crossings. Public comments collected for this plan included 51 that were sidewalk-related, and an additional 21 survey responses that were pedestrian-related. Residents reported deficiencies due to lack of maintenance, poor sidewalk conditions, and missing sidewalk connections. Rural townships in the county have few or no sidewalks, though many residents report walking on low volume local roads for transportation or exercise. In 2016, the Federal Highway Administration published a Small Town and Rural Multimodal Networks Handbook that illustrates appropriate solutions for pedestrians and cyclists in lower-volume contexts that satisfy the needs of the public and the municipality.

A key finding from the listening tour are critical gaps in infrastructure between residential populations and destinations such as jobs at retail shopping centers, Presque Isle State Park, and grocery stores. For households with access to vehicles, this is merely a missing option or mild inconvenience. For people whose only mode to access these locations is through public transit or sidewalk, these gaps pose an accessibility and potential safety concern. The LRTP strongly recommends coordination between municipalities and private developers to include sidewalk and transit amenities on developing property.

PennDOT conducts betterments on state routes on a cyclical basis to maintain pavement and stormwater facilities. During project scoping, improvements can be added to either install new or improve existing sidewalks and bike lanes. To assist PennDOT with the task of planning bicycle and pedestrian facilities, improvements requested by the public appear on the Betterments Projects map in Chapter 4.

Planning for all modes of transportation is very important to the MPO.

The project team heard many comments and support for multi-use trails, bicycle lanes, and green space on the listening tour. The public Wikimap comments indicated that 48 respondents desire community improvements such as park improvements, and adding dog parks, while 23 survey responses indicated needs for bicycle improvements. Active transportation can improve health and well-being through exercise. As Erie County is rich with local recreational destinations, it is important for tourism and quality of life to provide facilities for residents and visitors to reach these conveniently. This multimodal system is important for recreation, tourism, and providing mode choice for travel. Examples of existing land trail facilities in Erie County include trails at Presque Isle State Park, Asbury Woods Park, Erie Bluffs State Park, and the Corry Junction Greenway Trail (Exhibit 22). Inactive or abandoned rail lines are identified on this map for their potential use as rails to trails.

Several studies have been conducted specifically to focus on bicycle and pedestrian facilities. These studies include:

- City of Erie Active Transportation Plan
- Edinboro Road Study
- Presque Isle State Park Multimodal Improvements
- Our West Bayfront Community Plan
- Erie to Pittsburgh Trail/PA Wilds Gap Assessment Report
- Erie Western Port Authority Master Plan
- City of Corry Active Transportation Plan
- Erie County Parks, Trails and Recreation Plan
- Union City Borough Active Transportation Plan
- PennDOT District 1's Core Bicycle Network Study

The recommendations from these studies include:

- Pedestrian and bicycle trail connectors
- Bikeways
- Multiuse trails and bike lanes along existing roadways
- Routine maintenance plans for existing facilities
- Trailhead amenities
- Transforming old rail corridors into trails
- Connecting the existing trail network across the county
- Planning for winter trail activities

Safe facilities that allow people to ride bikes, walk, run, cross-country ski, etc., are essential components of a truly multimodal transportation system where people can choose the way they travel.

Exhibit 22 – Trail Facilities

Public Transportation

The Erie public transit services address personal mobility by providing transit choices and mobility for people who do not have access to personally owned transportation or are unable to utilize motor vehicles. Erie residents also prefer transit alternatives and have great concern for environmentally-friendly transportation services. Public transit continues to be supported by PennDOT through initiatives such as PennDOT Connects which encourages project scoping to consider the addition of transit amenities where feasible and warranted.

Erie County is served by the Erie Metropolitan Transit Authority (EMTA) which provides fixed route mass transit bus services marketed as the “e” and operates throughout the Erie downtown urban core and conducts routes throughout suburban and rural Erie County (Exhibit 23). The Erie County service is provided via rural routes to municipalities such as Union City, Fairview, Edinboro, Harborcreek, Waterford, Corry, Albion, Girard, Lake City and North East. The EMTA fixed route division also ensures transit service is available to and aligned with the Erie region’s four universities and technical institutions for students to have access to public transit.

In addition to traditional bus routes, EMTA provides complimentary paratransit ADA service along service corridors via the EMTA LIFT division. The LIFT paratransit on-demand bus service fills the transit gap for those Erie residents that may be disabled and unable to access the fixed route service primarily, the Erie senior population sponsored by the Lottery program or medical assistance clients for appointments. The EMTA LIFT paratransit operates its on-demand service through PennDOT’s Ecolane software upgrade. The Ecolane software, implemented state-wide in 2018, makes it easy for health care facilities, social workers, and other providers to schedule EMTA LIFT services. Future enhancements to technology for the paratransit rides include interactive voice recording, a customer self-scheduler function and a LIFT tracking app.

EMTA fixed route also keeps pace with technology via the myStop App and Trakr free of charge to EMTA riders supported by AVAIL technologies. EMTA fixed route has also implemented the Token Transit App and devices to allow riders a cashless payment method along with new fare boxes.

Transit concerns expressed by the public include the low frequency of fix route buses, and the lack of Sunday service.

EMTA continues to make great strides to improve service and efficiencies with the completion of the nine-acre combined fixed route with paratransit division facility. EMTA looks forward to the installation of the Transit Oriented Development site within the EMTA campus with a customer service office to better serve the EMTA rider's needs.

EMTA is investing in Compressed Natural Gas (CNG) buses to replace older, diesel powered buses.

Exhibit 23 – Transit Route System

Intercity Travel

Intercity travel is an important component of personal mobility and accessibility within a region, as it allows residents access to employment opportunities, as well as cultural and recreational destinations outside their area. Greyhound Bus Lines is the major intercity bus line operating in the region, and Amtrak is the major intercity rail provider to neighboring regions in Pennsylvania, Ohio, and New York. A Greyhound station is located at the Erie Intermodal Transportation Center on the Bayfront Parkway which serves Greyhound and EMTA buses. The facility offers an indoor waiting area for pre-paid ticket holders. As of November 2021, there are multiple bus routes operating through Erie, reaching the following destinations:

- Pittsburgh, PA
- Philadelphia, PA
- Cleveland, OH
- Cincinnati, OH
- Buffalo, NY
- New York City, NY
- Detroit, MI
- Baltimore, MD
- Washington, DC
- Boston, MA

Amtrak

Amtrak train routes allow long distance intercity travel between major destinations. Erie County has one Amtrak station near Peach and 14th Street at Union Station, which is near the EMTA headquarters. This station offers daily service on Amtrak's Lake Shore Limited line,

providing direct access to Chicago, Cleveland, Albany, New York City, and Boston.

Local Amtrak-related concerns generally focused on the limited availability of routes, and the time it takes to get to any destination. Public comments highlighted interest in high-speed regional rail service, which could make Erie a bedroom community for Pittsburgh, Cleveland, and Buffalo.

In July 2021, the local rail advocacy group, All Aboard Erie, joined with seven other groups to form the Lake Shore Rail Alliance to promote passenger rail between Chicago and New York City. In addition, in October 2021 the Erie County Rail Future Commission was created by Erie County Council to expand and lobby for enhanced rail service.

Aviation

Aviation facilities are an important component of the overall transportation system in Erie County because they provide mobility options for residents, travelers, and air freight. There are many private airports and recreational aviation facilities in Erie (Exhibit 24).

The two public airports are:

- Erie International Airport/Tom Ridge Field (FAA Identifier: ERI)
- Corry-Lawrence Airport (FAA Identifier: 8G2)

The Erie International Airport, located in Millcreek Township, offers daily passenger flights to and from Chicago, Washington Dulles, and Charlotte, NC. Passenger services include on-site parking and car rental services as well as US Customs and Border Protection. The airport also houses an aviation fueling station and provides flight training for people interested in becoming a pilot.

In February 2022, at the virtual public meeting, it came to the attention of Erie MPO that there is a desire for a seaplane base with fueling. The intention of the seaplane base would be to operate on both Lake Erie and Presque Isle Bay. However, as of the completion of this plan, the seaplane base is only conceptual, and more study and coordination are required before implementation.

Corry-Lawrence Airport (above)

Erie International Airport/ Tom Ridge Field

Exhibit 24 – Airport Facilities

Port

Bordered on its northern edge by Lake Erie, waterborne transportation and waterfront access for both freight and recreational purposes are vital components of the quality of life and economic vitality of Erie County. Today, the Port of Erie is multi-faceted; while it continues to serve industrial and trade interests, it is also central to capitalizing upon the economic and recreational opportunities of Lake Erie for residents and visitors. Throughout the area, marinas, fishing opportunities, scenic vistas, and related local waterfront access are integral and valued components of life in Erie County.

The Erie-Western Pennsylvania Port Authority (EWPPA) owns and manages the Port of Erie in a manner that surpasses the traditional concept of a working port to that of a valuable component of Erie County's character. EWPPA leads or is involved with many efforts to meet their mission to "further industrial, commercial and recreational opportunities on Presque Isle Bay and adjacent water."

The Port of Erie last published its Master Plan in 2018. The master plan analyzes land use and traffic circulation, economic vitality, multimodal accessibility, recreational trails, and freight and intermodal needs, as well as recommendations for improvements. The LRTP will help EWPPA fulfill its vision to make the Erie Bayfront a thriving, year-round regional economic engine defined by balanced development consisting of recreational, commercial, residential and industrial assets, all of which will be supported by a successful multimodal transportation system. At the time of this plan, the Port Authority was conducting a Market Analysis to grow in acreage and marketable products. Public concerns included maintaining and enhancing public access to areas of the Bayfront.

The port serves many roles. It is home to industry, hotels and restaurants, offices, the Erie Maritime Museum and the US Brig Niagara, marinas and more.

Photos Source: Mike Baker

Freight Accessibility & Mobility

Personal and freight mobility and economic competitiveness are two Federal planning factors that lead to an analysis of how the transportation systems impact the economy in Erie County. In support of freight planning, PennDOT Connects requires project managers to give early consideration to the presence of and impacts from current and future freight-generating land uses.

Erie's proximity to population centers, as well as industrial infrastructure that developed in the early days of the steel industry and railroad boom, along with its active rail lines, an international airport, water port access to the Atlantic Ocean and Canada, and interstate access

provide Erie unique economic capacity. Erie County's freight system was inventoried as part of the LRTP (Exhibit 25). According to the 2021 Pennsylvania Freight Movement Plan, Erie handled approximately 695,000 tons of cargo in 2019.

Interstates 90, 79, and 86 run through Erie County, providing access to markets within an approximate two-hour driving time in Pittsburgh, Cleveland, and Buffalo.

The majority of freight in Erie County is transported by truck, though the City of Erie and outlying municipalities are still tied directly into the railroad system, as most of the settlement in the county developed around freight movement. The Erie Extension Canal was the first freight thoroughfare in the County, but was quickly supplanted by the rail lines. Rail carriers include:

Transportation of goods in bulk is primarily accomplished via freight rail and freight trucks in Erie County. Additional freight is transported by water and air through the Port and the International Airport.

- Canadian National / Bessemer & Lake Erie Railroad through Albion and Girard
- Buffalo & Pittsburgh Railroad from City of Erie through Corry
- Western NY & PA Railroad between Mill Village and Corry southward
- East Erie Commercial Railroad adjacent to Wabtec
- West Erie Shortline Railroad connecting the Bayfront with the Norfolk Southern tracks

More information about freight transportation by rail can be found in the Pennsylvania State Rail Plan 2020.

Exhibit 25 – Freight Network

Major Employers

Notable industrial and manufacturing firms operate in Erie County, including Wabtec who produces rail, marine, drilling, and mining technology. Other companies specialize in metals and plastics such as the Parker-Lord Corporation, or in prepared foods, such as Welch Foods. The Erie Regional Chamber and Growth Partnership tracks the locally controlled company employment in Erie County (Exhibit 26), which was used to summarize the large industrial and manufacturing employers within Erie County.

Exhibit 26 – Erie County Industrial Employers (2021)

Local Company	Industry Description	Employees
Parker-Lord Corporation	Aerospace and industrial products	1,100+
Plastek Industries	Precision molds and plastic	700+
PHB/Reddog Industries	Die cast, rubber and plastic	650+
Eriez Magnetics	Metal detection, separation and recycling	450+
Port Erie Plastics	Custom injection molding	400+
Welch Foods, Inc.	Processed grape juice, jelly, jam	400+
Pinnacle Foods/Better Baked Foods	Frozen foods	300+
Bay Valley Foods	Food supplier	300+
EMSCO Group	Custom injection molding	250+
Shearer's Foods	Snack products	250+
Great Lakes Data Racks and Cabinets	IT equipment	250+
Ridg-U-Rak	Rack storage systems	250+
Logistics Plus	Warehousing and fulfillment	200+

Erie County manufacturing requires transportation of goods through the freight movement network.

Freight Tonnage

PennDOT's Statewide Commodity Flow Tool was most recently updated in 2017, and was used to analyze the commodities being transported into and out of Erie County through all modes of transportation (Exhibit 27). Erie's top five outbound commodities by tonnage include:

- Fabricated Metal Products
- Nonmetallic Minerals
- Processed Food & Tobacco
- Rubber, Plastics, or Leather
- Agricultural Products

The top five inbound commodities by tonnage include:

- Petroleum Products
- Processed Food & Tobacco
- Agricultural Products
- Fabricated Metal Products
- Clay, Concrete, Glass or Stone

Exhibit 27 – Erie County Freight Tonnage

It is important to note that the ranked commodities do not include Secondary Traffic, which makes up a large proportion of freight tonnage from Erie (33% outbound). Secondary traffic is defined as freight flows to and from distribution centers or through intermodal facilities. No commodity type is assigned to these intermediate destinations. For example, a truck carrying agricultural products from Buffalo, NY and stopping in Erie, PA to pick up or drop off goods and traveling onward to Cleveland, OH would only be accounted for as “secondary traffic” for Erie and “agricultural product” between Buffalo and Cleveland. Secondary traffic is often related to warehousing and distribution, parcel shipments and deliveries, and shipments of consumer goods with strong ties to retail business.

The Fixing America's Surface Transportation Act (FAST Act) of 2015 established the National Multimodal Freight Network (NMFN), shown statewide in Exhibit 28 and for Erie County in Exhibit 25. The purpose of the NMFN is:

- to assist States in strategically directing resources toward improved system performance for the efficient movement of freight on the Network
- to inform freight transportation planning
- to assist in the prioritization of Federal investment
- to assess and support Federal investments to achieve the national multimodal freight policy and program goals

Exhibit 28 – Pennsylvania Multimodal Freight Network

Source: US Department of Transportation, Multimodal Freight Network Map

Railroads and roadways move freight in and out of Erie County.

The National Multimodal Freight Network (NMFN) consists of:

- National Highway Freight Network (NHFN), which is further divided into:
 - Primary Highway Freight System (PHFS): This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. In Erie County, I-90 is part of this system.
 - Other Interstates not on the PHFS: These routes provide important continuity and access to freight transportation facilities. In Erie County, I-79 and I-86 are part of this group.
 - Critical Urban Freight Corridors (CUFCs): These are public roads in urbanized areas which provide access and connection to the PHFS and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities. There are no CUFCs designated in Erie County.
 - Critical Rural Freight Corridors (CRFCs): These are public roads not in an urbanized area which provide access and connection to the PHFS and the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities. There are no CRFCs designated in Erie County.
- Class I freight railroads. Several railroads in Erie County are part of this system, as shown on Exhibit 25.
- Public ports with annual trade of at least 2 million short tons

- Inland and intracoastal waterways
- The Great Lakes, St. Lawrence Seaway, and coastal and ocean freight routes
- Top 50 airports based on the highest annual landed weight
- Other strategic freight assets designated as critical to interstate commerce

The National Highway Freight Network is maintained by the Federal Highway Administration (FHWA) and is directly tied to funding through the National Highway Freight Program (NHFP) and the FASTLANE discretionary program. PennDOT determined its Critical Urban Freight Corridors (CUFCs) and Critical Rural Freight Corridors (CRFC) network as part of its 2020 Freight Planning Guidance. These corridors were determined in consultation with the MPOs, and are also eligible for NHFP funding. No CUFCs or CRFCs were designated in Erie County.

While railroads transport freight, railroad bridges often cause difficulties for large trucks underneath creating breaks in urban freight corridors.

Sustainability & Equity

Environmental Sustainability

The quality of the environment is important to preserve for current and future generations' health and enjoyment. Furthermore, Erie County is a maintenance area as determined by the 1997 ozone national ambient air quality standard (NAAQS). This means that an air quality analysis was undertaken for all regionally significant fiscally constrained projects in this plan. The air quality assessment determined that projects outlined in the LRTP would not significantly impact ozone. The full assessment was completed by PennDOT and can be found in Appendix E.

In addition to the regulatory measures, Erie County pledged in November 2018 to support the Emerge 2030 District to reduce transportation emissions by 50% by 2030. Progress towards this goal includes EMTA's move towards Compressed Natural Gas (CNG) buses in place of diesel buses. In addition to the bus fueling station, a public CNG fueling station was constructed at the new EMTA facility in 2021 and is maintained by Trillium.

Electric Vehicles (EVs) in the County are also reducing air emissions; however, Erie County has a long way to go. The Pennsylvania Electric Vehicle Roadmap: 2021, published by the Pennsylvania Department of Environmental Protection (DEP), showed that in November 2020 there were 249 EVs registered in the County, less than 1% of EVs in the state. Government is increasingly becoming

involved in incentivizing purchases of EVs and in the placement of charging stations. For example, Pennsylvania created the initiative named Driving PA Forward with grants and rebates.

With technical assistance and guidance from FHWA, PennDOT is creating alternative vehicle corridors along the Interstate system through the addition of fueling and charging facilities to fill existing gaps. During public comment there was municipal interest in building these stations, but it was also noted that the electric grid infrastructure capacity will need to be improved as the amount of EVs on Erie County streets grows.

Public CNG fuel station in the City of Erie.

Photo Source: Peter Olszewski

Potential impacts on natural and historic resources were analyzed using the Pennsylvania Natural Heritage Inventory's Conservation Explorer (PNDI) system, as well as GIS layers from various environmental agencies (Exhibit 29).

Important considerations in Erie County regarding the environment are to maintain critical habitat for threatened, endangered, and sensitive species of birds, fish, plants, and animals; to preserve the excellent environmental quality of French Creek and its tributaries and preserve mussel species within; to ensure that open space is preserved in floodplains; adequate setbacks from the bluffs; important bird areas at Presque Isle, Erie Bluffs State Park and habitat at the northern border of the Erie Wildlife Refuge just south of the county line; and to pursue wetland banking to offset impacts to wetlands. During conversations in the public comment period, environmental agencies expressed the need for more public access to water trails and streams, increased education on eco-tourism opportunities, as well as methods to enhance stewardship of the water, land and historic sites.

In February 2021, Erie County renewed its efforts to have a portion of Lake Erie classified as a National Marine Sanctuary; this designation would protect 76.6 miles of shoreline, 759 square miles of the lake's central basin, and more than 100 shipwreck sites.

To gain additional insight the project team participated in an Agency Coordination Meeting (ACM) with PennDOT, the Pennsylvania Department of Conservation and Natural Resources (DCNR), Pennsylvania Department of Environmental Protection (PA DEP), the Pennsylvania Fish and Boat Commission (PFBC), United States Fish and Wildlife Service (USFWS), Pennsylvania Museum and Historical Commission (PMHC), and other environmental agencies on January 26, 2022 to review the projects recommended by this plan and those programmed on the TIP and TYP. The ACM did not have any comments on the proposed projects in the Erie LRTP, or on its proposed mitigation strategies. More information on the ACM can be found in Appendix D.

Environmental considerations include natural habitats such those at Erie Bluffs State Park (above) and historical sites such as archaeology near the Bayfront Parkway (right). Image from Herberling Associates Inc.

Exhibit 29 – Environmental Resources

Environmental Mitigation

Transportation projects have the potential to disturb the surrounding natural and historic resources. It is the goal of this plan is to avoid these impacts as much as possible. Where disturbances are unavoidable, the disturbance can be mitigated to reduce severity. More frequently, the MPO, through the PennDOT Connects process, looks for ways transportation can help to restore and maintain environmental activities and preserve historic structures and sites. The project ranking of this plan took into account the potential positive impact of a project on the environment as well as negative impacts.

PennDOT's environmental staff is involved with studies and scoping field views as projects move into preliminary engineering. Early identification of potential impacts to the environment and communities is performed such as tracking threatened and endangered (T&E) species, coordinating with agencies early on project locations, providing multimodal access, and implementing stormwater and erosion control measures throughout the county.

Threatened and endangered species impacts will be mitigated appropriately according to regulations of the PA Fish and Boat Commission, PA Department of Conservation and Natural Resources, and U.S. Fish and Wildlife Service.

Lake Erie's tributaries are home to migratory fish. These waters, along with trout stocked and wild trout streams, carry an instream restriction which can impact construction schedules. The Mussel Programmatic Agreement with USFWS and PFBC should continue to protect T&E Mussels in French Creek and its tributaries. PFBC and PennDOT support coordination on highway and bridge to investigate potential for easements for public access to streams.

Wetland banks can be used to mitigate project impacts to wetlands. The wetland bank for the Lake Erie Watershed and the French Creek/Allegheny Watershed are currently under capacity; as such, there is no need to pursue additional wetland banking sites at this time.

Wetland banks are mitigation banks that have been restored, established, enhanced, or in certain circumstances preserved for the

purpose of providing compensation for unavoidable impacts to aquatic resources; these banks can be wetlands, streams or other aquatic resource areas.

The project sponsor will work with Pennsylvania Museum and Historical Commission (PMHC) to identify key cultural and historic resources, as well as archeological sites, and implement advanced mitigation strategies as necessary. Consideration should be given to decommissioned historical bridges for repurposing to parks and bicycle and pedestrian trails. All projects should avoid negative impacts to public parks and State Gamelands.

Stormwater management and erosion control will be addressed by coordination with the Conservation District, maintaining erosion control on construction sites, maintaining the existing stormwater systems, training municipalities, and preserving open space in floodplains.

Multimodal connectivity will be improved to bring awareness of environmental issues to the public eye and to reduce vehicular emissions and noise, and minimize impact of climate change by meeting EPA emissions budgets through the travel demand forecasting and air quality conformity process.

When possible, new projects will incorporate environmentally-friendly designs. These may include bioswales, permeable pavement materials, stormwater medians, and floating island planters, to name a few.

Equity

An equitable transportation system is accessible and affordable for everyone, resulting in fair distribution of resources, benefits, costs, and services. Environmental Justice (EJ) refers to the implementation of Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which directs procedures to be put in place to identify and address any disproportionately high and adverse human health or environmental effects on minority and low-income population groups.

Every two years, the Erie MPO completes an Environmental Justice (EJ) analysis of the Transportation Improvement Program (TIP) to identify the benefits and burdens placed on low-income and minority populations from transportation projects. PennDOT recognizes that the identification of traditionally underserved, low-income, minority, and otherwise vulnerable populations is important because these populations often have specific and unique transportation needs to be considered, planned for, built, and maintained. Underserved populations may be found in urban, suburban, and rural areas.

Furthermore, in September 2020 Erie County Council passed Resolution 43 Declaring Racism as a Public Health Crisis in Erie County. To pursue this mission, a Diversity, Equity and Inclusion Commission was created to invest in racially diverse populations by granting

funding that creates opportunities for minority populations, lobby for inclusive policy, and empower minority populations throughout Erie County.

The fundamental principles of Environmental Justice can be defined as:

- To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

Exhibit 30 – Environmental Justice: Low-Income

Exhibit 31 – Environmental Justice: Minority

Environmental Justice Populations

Federal regulations require that only minority and low-income populations be considered in an EJ analysis. Because the identification of EJ populations and assessment of needs took place early in this plan's development, the 2020 Census data was not available. Minority and low-income populations in Erie County were identified using data from the U.S. Census Bureau's 2010 Decennial Census and 2013-2019 American Community Survey (ACS) (Exhibit 30 & 31).

Based on the Office of Management and Budget (OMB) Policy Directive 15, Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity, issued in 1997, five minimum categories were established to address data on race.

Minority

Black: a person having origins in any of the black racial groups of Africa

- *Hispanic:* a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish
- *Asian:* a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent
- *American Indian and Alaskan Native:* a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition
- *Native Hawaiian or Other Pacific Islander:* a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other

Pacific Islands.

Low-income

Person whose median household income is at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines (Exhibit 32).

Exhibit 32 – Profile of Low-Income & Minority Populations

Demographic Indicator	Erie County	
	Popula- tion	Percent- age
Total	273,835	100%
White, Non-Hispanic	227,533	83.09%
Minority	43,189	15.77%
Black or African American, Non-Hispanic	17,247	6.30%
American Indian and Alaska Native, Non-Hispanic	694	0.25%
Asian alone, Non-Hispanic	4,110	1.50%
Native Hawaiian and Other Pacific Islander, Non-Hispanic	63	0.02%
Some other race, Non-Hispanic	3,161	1.15%
Two or more races	8,148	2.98%
Hispanic or Latino	10,870	3.97%

Low-Income Households	16,962	15.38%
Low-Income Population	41,793	15.26%
Other Potentially Disadvantaged Populations		
Limited English Proficiency Households	1,739	1.58%
Persons with a Disability	41,007	15.30%
Elderly (65 years or older)	47,517	17.35%
Carless Households	12,100	11.00%
Housing Units with no internet	20,035	18.16%
Housing Units with No Computer	13,170	11.94%

*Source: 2015-2019 American Community Survey 5-Year Estimates

There is overlap between low-income populations and minority populations. Erie County contains three times the low-income Hispanic/Latino and Black/African American population, than low-income white population (Exhibit 33).

Exhibit 33 – Low-Income Rates Among Racial/Ethnic Groups in Erie County

Source: 2015-2019 American Community Survey 5-Year Estimates

Low-income and minority concentrations were mapped by census block. The condition of bridges, pavement and locations of crashes

were evaluated across the county to assess conditions and identify needs. Bridge and pavement condition, both good and poor, was spread throughout the County. Of the 30 miles of poor pavement (by IRI), only 2 miles were located in areas with a census block group minority population percentage greater than four times the countywide minority population percentage. None of these poor condition roads were in a census block group with a minority population percentage greater than four times the countywide minority population percentage. Likewise, no poor condition bridges (by deck area) were located in a census block group with a low-income population or minority population percentage greater than twice the countywide low-income population percentage.

Using data from 2015-2019, crashes were analyzed. While vehicular and bicycle crashes were predominantly in areas with less EJ population, that is not true with pedestrian crashes. 46% of all pedestrian crashes occurred in an area with double the average county minority population and 37% in an area with double the average County low-income population. In order to mitigate this, more Non-Motorized projects were included in the highway projects list than in previous years.

According to the 2015-2019 ACS data, 6.8% of Erie households speak a language other than English at home. To ensure equitable access to the planning process, all materials related to this plan were advertised to be made available to any individual wishing to participate through free translation services with written request. It should be noted that there were no requests during the course of this plan.

During the public outreach process, the project team met with the New American Council. Specific concerns included transit and sidewalk access to the County's Department of Health as well as traffic signs in additional languages. Other transportation related concerns were access to work locations, especially by transit, at appropriate times for shift-work.

Many projects, policies, and studies that are recommended by this LRTP seek to enhance safety and accessibility through sidewalk and pedestrian safety improvements, non-motorized trails, and bike lanes to provide mobility options for residents without private vehicles to access transit, schools, workplaces, medical care, and grocery stores.

Health

The transportation system plays a vital role in providing accessibility, mobility, and recreation options for its residents which may influence community health outcomes. In 2018, a group of local health experts and community members updated the Erie County Community Health Needs Assessment (CHNA).

The CHNA identified the top health concerns are mental health and suicide. While obesity is no longer the top priority, it still is a significant factor influencing the health of Erie County residents. Since 2007, the percentage of adults in Erie County who are obese has

steadily increased from 28% to 35%. According to the CHNA, diseases of the heart were the leading cause of death for years 2012-2014 while stroke was fourth. Risk factors for these diseases are associated with inactivity, obesity, high blood pressure, cigarette smoking, high cholesterol, and diabetes.

The non-motorized transportation system of interconnected sidewalks, paths, bicycle lanes, and trails provides mobility options for the public to encourage healthy activities such as active transportation to work, shopping, school, healthcare, recreation, and other purposes. Supporting projects and policies that encourage the preservation and expansion of the multimodal transportation system serves to improve Erie County's public health while enhancing mobility and the local economy.

Many municipalities in Erie County are creating active transportation plans that identify the needs of people not using a vehicle. The City of Erie, the City of Corry and Union City Borough recently completed active transportation plans. Since 2018, the WalkWorks program from Pennsylvania Department of Health has been giving technical and financial assistance to municipalities wanting to create an active transportation plan in their area. Other initiatives are focused around schools. The City of Erie's Public Schools partnered with the United Way of Erie County to create walking bus routes to school.

In 2018, Erie County Department of Health joined with community partners, including three local hospitals, to bring the Blue Zones Project to the City of Corry. The Blue Zones Project is an initiative to support community well-being to help residents live healthier, happier lives. Active transportation is an important part of the initiative. Also, in February 2021, Erie County Government achieved Blue Zones Project Approved-Worksite designation by implementing a number of best practices to improve and support employee well-being.

Public transportation such as EMTA's fixed route bus system and paratransit Lift system can help people access jobs and healthcare. The first- and last-mile connections to fixed-route transit are often accomplished through walking or cycling, which provides physical activity that may reduce the risk of obesity, diabetes, high blood pressure, dementia, and depression.

Using aerial photos to identify sidewalk locations and the Travel Demand Model (TDM) to calculate walking times, an accessibility analysis was conducted to determine the walking time to key locations. TDM sidewalk and trail locations are shown in Exhibit 34, and accessibility via sidewalks to transit is shown in Exhibit 35."

Although many people may walk along low-stress rural routes without sidewalks, this analysis considers sidewalks only, as they provide refuge for the most vulnerable populations such as those with limited mobility, disabled, children, and the elderly. A drawback to the data available through aerial photography is that it identifies only "sidewalk" locations, and does not include any information on Americans with Disabilities Act (ADA) compliancy (such as compliant curb ramps, sidewalk slopes, or detectable warning surfaces) or condition (such as tree roots, grass, heaving or uneven sidewalks).

It is important to note the rise in popularity of micromobility devices such as E-bikes. Because these devices have a motor, they are not part of active transportation; however, these devices do have the potential to increase accessibility for those without a car.

Walking is an important component to a healthy lifestyle.

Exhibit 34 – TDM Sidewalk & Trails

Exhibit 35 – Accessibility to Transit Service via Sidewalks

The CHNA identified poor nutrition as a health problem in Erie County. The self-reported percentage of Erie County adults who eat fruits and vegetables five or more times per day is 12%, lower than the state value of 15%, according to information gathered from the Center for Disease Control's Behavioral Risk Factor Surveillance Survey.

The transportation system provides access to supermarkets and fresh produce. A food desert can be described as a geography where there is limited access to healthy or affordable fresh produce and food options. An analysis of food deserts was performed to illustrate areas in need of improved accessibility to grocery stores as part of the CHNA; this identified twelve food deserts in Erie County by census tract, all of which are either low-income or low vehicle access areas.

Accessibility to grocery stores via sidewalk (Exhibit 36) can be used as a needs identification, showing that while many EJ areas have access to stores of varying size, quality, and price, they lack large, affordable supermarkets. Erie's impoverished, minority, and refugee populations in these EJ areas are particularly at risk of health distress as noted in the CHNA. Exhibit 36 through Exhibit 39 show accessibility via sidewalks to grocery stores, hospitals, schools, and parks with EJ areas overlaid.

These maps can be used as a starting point for conversation on how to approach and begin fixing these issues. A key recommendation of the LRTP is to establish a multimodal transportation and health committee made up of a multi-disciplinary team of planning, health,

and transportation professionals. The committee should meet regularly to discuss current issues with health and the transportation system and examine how targeted multimodal transportation investments can affect health, mobility, and quality of life; the group should prioritize corridors, establish public-private partnerships and identify funding sources in order to champion and deliver projects. This will allow the group to gain momentum and visibility to raise awareness of the transportation-health linkage and help Erie County residents achieve a fuller, healthier lifestyle.

Exhibit 36 – Accessibility to Grocery Stores via Sidewalks

Exhibit 37 – Accessibility to Hospitals via Sidewalks

Exhibit 38 – Accessibility to Schools via Sidewalks

Exhibit 39 – Accessibility to Parks via Sidewalks

Project Feasibility

Project feasibility aims to ensure that the MPO advances projects that support the goals and objectives of the community. PennDOT Connects requires early collaboration between officials and the public on projects regarding utility issues, right-of-way considerations, and consistency with local and regional planning studies. This helps to ensure that each project likely has a champion in the community who is willing to advance the project into programming. To understand public support for projects, the project team reviewed planning studies, conducted extensive public outreach, and interviewed municipal officials and stakeholders.

Planning Studies

The project team undertook a literature review of plans completed since the 2042 LRTP as an initial way to identify supported projects

(Exhibit 40).

Exhibit 40 – Literature Review

Title	Year
2042 Erie Long Range Transportation Plan	2017
Shorewood Park Master Plan	2016
Erie County Cultural Heritage Plan	2017
Edinboro Road Study	2018
Embrace Millcreek	2018
Erie Western Port Authority Master Plan	2018
Our West Bayfront Community Plan	2018
Pennsylvania State Rail Plan Phase 1	2018
Presque Isle State Park Multimodal Improvements	2018
Securing Summit's Success	2018
Albion Borough Comprehensive Plan	2019
EMTA Transit Development Plan	2019
Erie to Pittsburgh Trail/PA Wilds Gap Assessment Report	2019
Lawrence Park Main Street Streetscape	2019
PennDOT Western Regional Operations Plan	2019
City of Corry Active Transportation Plan	2020

Title	Year
City of Erie Active Transportation Plan	2020
Erie County Parks, Trails and Recreation Plan	2020
Greene Township Comprehensive Plan	2020
PennDOT District 1 Core Bicycle Network Report	2020
East-West Pedestrian Connections across the Bayfront Connector	2020
Fairview Township Master Plan	2021
PennDOT District 1-0 Report Card	2021
Union City Active Transportation Plan	2021
City of Erie 38th Street Operation Movement Study	Draft
Millcreek Township Intersection Study	Draft

Public Outreach

Early public involvement is a critical part of PennDOT Connects planning policy, ensuring that communication and collaboration happens as part of project conception to avoid costly changes in later project phases. As discussed in Chapter 1, the project team conducted a listening tour, which included the plan website, social media advertisements, a YouTube video, an Online survey, and a Wikimap to gather information on the public's concerns (Exhibit 41).

The survey received 477 responses, while the Wikimap received an additional 387 comments and 27 public comments were collected during PennDOT's Twelve-Year Plan process. The responses were mapped and analyzed to identify potential improvements (Exhibit 42). Complete summaries of the public survey and Wikimap are included in Appendix B.

Following the public outreach, each municipality and planning agency was provided with a list of the public comments it had received, a list of their projects from the previous LRTP and any interim studies, plus a list of potential betterment projects. The municipalities then

had the option to keep, discard, or modify any projects from the previous LRTP, create a new project based on public comments received, or provide any other additional projects or policies they had conceived of since the previous LRTP.

Exhibit 41 – Erie County LRTP 2050 Wikimap

Exhibit 42 – Public Comment Summary

Congestion & Maintenance

Across the state and nation much of the transportation network is reaching the end of its design lifespan. This means that the roads, bridges, and other infrastructure we rely on is quickly deteriorating and as time passes the effects of this will become more apparent with bridge closures and crumbling pavement. The amount of resources needed to preserve this infrastructure is greater than ever before, yet revenues available are historically low. With these considerations, a goal of the LRTP is to leverage existing revenues to best address the needs of the transportation system through proper asset management. This LRTP therefore includes an important focus on system efficiency and preservation in terms of:

- Pavement / Highway Maintenance
- Bridge Maintenance
- Traffic Signal Systems

Exhibit 43 shows PennDOT District 1's TIP investment for Erie by project class for three categories: roadway, which encompasses pavement and highway maintenance plus traffic signal improvements, bridge maintenance, and bicycle/pedestrian projects.

Pavement Quality

PennDOT assesses pavement surface conditions using a variety of metrics that include International Roughness Index (IRI). IRI is a world-wide standard to measure pavement roughness in terms of the number of inches per mile that a laser, mounted in a specialized van, jumps as it is driven along a highway – the lower the IRI, the smoother the ride. Scores for the metric are grouped into ranges to define pavement conditions as Poor, Fair, Good, or Excellent. Overall Performance Index (OPI) is another method for measuring pavement surface conditions, similar to IRI.

According to the 2019 MAP-21 Performance Measures Annual Report, 87% of all roads in Erie County have an IRI of Fair or better (Exhibit 44), and 93% have an OPI of Fair or better (Exhibit 45).

Exhibit 43 – Erie TIP Maintenance Investments

Freeze-thaw cycles contribute to roadway deterioration.

In addition to the roadways with measured IRI and OPI, Erie County has numerous gravel roads in rural areas, many of which are in poor condition.

Exhibit 44 – Erie County Pavement Conditions (IRI)

Exhibit 45 – Erie County Pavement Condition (OPI)

State Bridges

PennDOT owns 577 bridges spread through every municipality in Erie County, and PennDOT District 1's Bridge Unit prioritize their bridges for repair and maintenance. Focus is shifting from a worst-first approach to one based on lowest lifecycle cost. The Bridge Asset Management System (BAMS) was developed to help assess preservation activities to extend the life of a structure. Project selection is also driven by performance-based planning targets for bridges on the NHS. 23 CFR 490.411(a) requires that no more than 10 percent of a state's total NHS bridges by deck area be in poor condition; the current 4-year statewide target is 6.0%. More information about performance targets is located in Chapter 4 Recommendations & Implementation.

While data is increasingly driving the role in prioritizing bridge projects, there are still decisions that need to be based on judgement. For instance, good condition bridges in Erie County have the potential to be struck by large vehicles. The SR 18 (Meadville Road) Bridge over I-90 in Girard Township was hit twice in one week in the summer of 2021. Trucks are crossing from Ohio, where bridges have higher

clearances, and entering Pennsylvania where there are older, lower bridges on the western portion of I-90. Raising or eliminating these bridges has become a high priority.

A concern that arose from public comment is that many PennDOT bridges have crumbling concrete parapet walls with exposed rusted rebar. While this does not affect the structural adequacy of the bridge, the deterioration can be unsightly and unsafe for pedestrians. Examples include the SR 18 (Meadville Road) Bridge in Platea Borough and the SR 6 (East Columbus Avenue) Bridge over Hare Creek in the City of Corry.

Throughout public engagement, the desire for community gateways became prevalent; bridges have the potential to be parts of these gateways. For example, the Grandview Boulevard Bridge over I-79 could be decorated to enhance the natural view over the landscape to the Lake. SR 98 (South Lake Street) passes beneath railroad bridges at the entrance to the historic center of North East Borough. The need for better pedestrian lighting underneath Erie City bridges was articulated in the Active Erie Transportation Plan, including railroads that pass overhead. Exhibit 46 shows the location of functionally obsolete and structurally deficient bridges in the county.

Bridges in Erie County suffer deterioration for multiple reasons including scour from water flow around abutments and vehicles striking bridges overhead.

Exhibit 46 – Erie County Bridge Condition

Local Bridges

While Erie County does not own any bridges, the County and MPO support the 30 municipalities in the county that do maintain these vital crossings. Erie County administers two programs to assist the municipalities to maintain these bridges. The first program is the \$5 Local Use Fee. Erie County enacted legislation to allow the collection of \$5 on qualified vehicle registrations in 2017. These funds are assigned to locally owned, poor condition bridges over 21 feet, which are prioritized through the MPO. The bridges are ranked based on condition, average daily traffic and detours. There are a total of 111 locally owned bridges over 21 feet, of which 25 bridges, or 22%, are in poor condition.

The second program is the Erie County At-Risk Bridge Program funded with Act 13 Marcellus Shale Impact Fee funding. These funds are available to municipalities by application when a bridge becomes structurally deficient. These funds are available to smaller bridges owned by the municipalities. There are an additional 295 of these small bridges, which are not prioritized because comprehensive inspection data is not available for bridges and culverts under 20 feet in length. Without a comprehensive and standardized inspection,

these small bridges cannot be prioritized. However, whenever a project is approved, it is added to the Erie MPO TIP.

Additional federal funding is available through the TIP for locally owned bridges. These are the Bridge Off-System Program (BOF) and Bridge Investment Program (BRIP). The latter is a new funding source from the Infrastructure Investment and Jobs Act (IIJA) of 2021. As federal funds, only bridges over 21 feet can receive these funds; these funds are programmed alongside the \$5 Local Use Fee projects. Exhibit 47 shows the funding sources for local bridges.

Exhibit 47 – Local Bridge Funds

Funding Category	Funding Program
Local Funding	Erie County At-Risk Bridge Program (Act 13)
	\$5 Local Use Fee Program
Federal Funding	Bridge Off-System Program
	Bridge Investment Program

Himrod Road Bridge is in the process of being Local Use Fee funds (Above). The Depot Road Bridge replacement project used the County’s At-Risk Bridge Program (Left).

Traffic Signal Systems

Traffic signal systems are of particular importance in Erie due to the sheer number of signalized intersections, and those that are operating without updated equipment that can reduce user delay and improve response. Approximately 352 traffic signals and 27 flashing beacons operate throughout Erie County. Well over half of these signals (203) are located within the City of Erie, and a majority of the remainder can be found in the immediately adjacent urbanized areas (Exhibit 48 & Exhibit 49).

According to the public survey, traffic flow is the number two most reported area in need of improvement in Erie County. In general, the traffic signal infrastructure throughout Erie County is outdated and requires substantial investments to help reduce delay and improve operating efficiencies and mobility:

The Travel Demand Model (TDM) for the LRTP has greatly enhanced capabilities with regard to signal operations. The county’s TDM explicitly accounts for the intersection approach and turning movement delays that occur at each traffic signal based on a realistic set of traffic signal timing, phasing, and related operating assumptions. As such, the TDM better reflects and quantifies the potential impacts of adding, removing, or modifying traffic signals or traffic signal operations throughout the transportation network. Such capabilities will allow Erie County and its partner agencies to take a more comprehensive preliminary look at the overall effects of traffic signal system modifications that may address any of the issues or concerns identified above.

- 47% of the county's signals currently operate as part of a coordinated traffic signal system. Of the 37 different coordinated systems, 57% coordinate just 2-3 signals each.
- Many of the coordinated systems do not span gaps that would otherwise allow for larger, more continuous systems, or could benefit from improved communications capabilities.
- Critical intersections may benefit from additional turn arrows and corresponding signal phasing modifications.
- Several of the county's signals operate with aged or electromechanical equipment in need of upgrade, replacement, or in some cases removal.
- Some of the oldest equipment in the county is located along the State Street corridor through the center of downtown Erie. Several signals along the West 38th Street corridor, particularly east of State Street, are also in need of improvements.
- The age, poor condition, and outdated technology of the emergency vehicle traffic signal preemption system impacts emergency response time.

A variety of traffic signals exists throughout Erie County like these seen on State Street in the City of Erie. Photo Source: Mike Baker

Exhibit 48 – Erie County Traffic Signals

Exhibit 49 – Downtown Traffic Signals

Stormwater

Stormwater is a Federal planning factor introduced by the FAST Act. PennDOT Connects requires stormwater management concerns to be discussed during early project collaboration. Stormwater management and infrastructure maintenance are key components of a reliable and safe transportation system. This is especially true in Erie County due to its proximity to lakes and streams; it has a vested interest in stormwater management.

Standing water on the roadway creates hazardous conditions for drivers and can lead to ice patches in the winter and hydroplaning in the warmer months. Flooding may mask where the roadway could be swept away or lead to damage to the pavement substructure.

Many municipalities in Erie County own and maintain local roads consisting of hard-packed dirt which are affected negatively by heavy rains and flooding. In the policies section of this report, the LRTP makes a recommendation that municipalities inventory and prioritize

their local roadways for paving and drainage upgrades as funding becomes available.

State routes are routinely upgraded for betterments. Stormwater maintenance issues on state routes should be reported to PennDOT as soon as possible.

Eight Erie County municipalities (Albion Borough, the City of Erie, Fairview Township, Girard Township, Harborcreek Township, Millcreek Township, Summit Township and Wesleyville Borough) are Municipal Separate Storm Sewer System (MS4) reporting areas in which stormwater discharge is regulated by the Pennsylvania Department of Environmental Protection. In addition to pollution concerns, aging stormwater infrastructure is a problem in some parts of Erie County. Specifically, a consultant for the City of Erie completed a Storm Water User Fee Study in June 2021 that recommend a residential storm water fee to put in place funds for the maintenance of stormwater infrastructure.

Stormwater frequently floods roads in Erie County.

Project Evaluation Criteria

Development of appropriate project evaluation criteria is crucial to ensuring a fair, balanced, and objective view of the numerous candidate projects that were identified through public outreach. The first step was to divide out projects that could be completed with funding available to the MPO. Candidate highway and bike/pedestrian projects were prioritized based on an objective rating and ranking process.

It is important to note that not all projects in this plan have been prioritized. Distinct assets with different funding availability are ranked separately. These processes are described in detail every two years with the Transportation Improvement Program:

Exhibit 50 – Criteria Weightings

Category Weight %	Goal Category	Subcategory Weight %
Safety & Security		
24.0	Network Screening Tool	16.0
	Reduction in Multimodal Hazards	4.0
	Reliability	4.0

Traffic Congestion & Maintenance		
17.6	Congestion	4.2
	Existing Deficiency	13.4
Economic Vitality		
15.4	Economic Benefit	4.9
	Interstate Access	2.1
	Revitalization	4.0
	Tourism	1.8
	Recreation	2.6
Feasibility		
11.7	Project Readiness	3.5
	Municipal Support	3.4
	Planning Consistency	4.8
Multimodal Accessibility & Mobility		
10.9	Pedestrian Access	4.9
	Bicycle Access	3.2
	Public Transportation	2.8
Sustainability & Equity		
10.5	Minority Population	3.0
	Low Income Population	3.0
	Environmental Resources	4.5
Freight Accessibility & Mobility		
9.9	Rail Service	4.0
	Air Travel	4.2
	Waterborne Transportation	1.7
100.0	Totals	100.0

- Transit Projects
- Aviation Projects
- Erie Western Pennsylvania Port Authority Projects
- Local Bridges
- PennDOT's Highway/Bridge Projects and Interstate Projects

There are also lists in this plan that are not prioritized:

- Local Projects
- Betterments
- Studies
- Policies

The seven objectives found in Chapter 1 were ranked and divided into measurable subcategories. In 2016, the Erie MPO Technical Advisory Committee used Decision Lens to compare the categories to one another using a pair-based survey technique to establish a weight. The weighted value is out of a total score of 100% for each category and represents the relative importance of each to the transportation needs in Erie County (Exhibit 50). The Erie MPO agreed that these categories and weights should remain the same for this plan update.

Within each category, individual evaluation criteria were defined to determine to what degree a project meets the goals of a specific category. These were refined for this plan to incorporate performance measures and public comment.

The top priority of the Erie MPO was Safety and Security. In order to identify projects that will work towards meeting safety performance measures and quality for Highway Safety Improvement Program funding, the Highway Safety Network Screening (HSNS) tool was used. For this prioritization, HSNS quartiles were calculated for county-wide categories: urban, rural, intersections and segments. Projects with a positive cost (benefits exceed cost) were given a score from 0.25 to 1.00. Projects with a negative cost (cost exceeds benefits) or projects not on the network were scored a 0.

Also within the safety and security category, the reduction of hazards was measured for the impact on all modes of transportation, regardless if the project had a positive cost in HSNS. For example, an upgrade to a rail crossing was given a score of 1, even though it may not be linked to crash data. Reliability evaluated if the project would positively impact emergency detour routes or emergency response times.

The second highest ranked category was Traffic Congestion and Maintenance. Congestion was given less priority in this plan in response to public comments emphasizing the need for multimodal access. It was measured using roadway or intersection Level of Service (LOS) determined by the TDM, which measures the difference between real-time traffic speed and free-flow traffic speed. In previous plans, route significance, Average Annual Daily Traffic (AADT) and Average Annual Daily Truck Traffic (AADTT), were used in this category. However, LOS better reflects traffic congestion than AADT since a roadway can have a high AADT but not be congested.

In the same way, truck traffic and route significance do not directly indicate traffic congestion.

Existing Deficiency, in turn, was given more priority within the category than congestion. Maintenance addressed one or more deficiencies (e.g., sidewalk or bicycle facility gap or deterioration, traffic signal coordination or improvements, poor pavement quality, ADA inaccessible curb ramps, etc.). Adding more emphasis to the existing deficiencies prioritized small-scale, big-impact improvements to the existing transportation network identified by the community during public outreach.

Economic Vitality was the third most important category. Benefits were measured for their impact on one or more municipalities. Regional impact was removed. Revitalization was revised to include the City of Erie's Flagship Opportunity Zones. The tourism and recreation categories measured if projects improved access for multiple modes of transportation. The new multimodal emphasis reflects the community desire to access destinations by modes other than cars that was expressed during public outreach.

Feasibility was also an important factor in project prioritization. As part of this plan's development, municipalities were given the chance to review potential projects and indicate their level of support. This allowed a criterion to be added for municipal support. Project readiness and planning consistency were evaluated the same way as the previous plan, by current project phase and if the project was identified in a previous plan.

Another important consideration was Multimodal Accessibility and Mobility. Updates to this section include the simplification of criteria to better reflect the small scale and local nature of walking and biking, as well as maintenance issues and gaps identified by the public and municipalities. The ranking prioritized creating multimodal connections to important destinations such as parks and grocery stores. Preference was also shown to projects that would benefit more than one municipality.

The Sustainability and Equity category underwent the most significant update from the previous LRTP Plan. The sustainability criterion was changed to incorporate both positive and negative impacts, instead of only negative. Increasing environmental concerns related to climate change and the resiliency of infrastructure were considered. Projects with the potential to increase resilience, such as improving stormwater facilities or reducing vehicular emissions, were given higher scores. Projects with adverse environmental impacts, such as increasing impermeable surface area or impacting critical animal habitats, were given lower or zero scores. Environmental concerns also involve the protection of historic assets. If the project could enhance historic preservation or interpretation, such as the restoration of a historic truss bridge, the project was given a higher score. If the project could harm historic features, such as damaging archeological sites, it was given a lower score.

Equity was also changed significantly from the previous LRTP. Environmental Justice maps illustrate concentrations of low-income and

minority populations by census block, relative to the countywide averages of 15.3% for low-income and 15.8% for minority populations. Projects received higher scores when located in census blocks with greater low-income or minority populations. For example, a project located in a census block with greater than 63.2% minority population (more than four times the county average), would receive four times the score for this criterion compared to a project located in a census block with less than 15.8% minority population. Low-income and minority populations were considered separately, so that projects could receive scores for each category, and projects located in more than one census block received the greatest of the census block values.

Comparing the final LRTP projects to areas with relatively high low-income and minority populations (Exhibit 51), shows that many of the recommended projects are directed toward these areas. The LRTP recommended projects are discussed in more detail in Chapter 4. In addition, the emphasis on multimodal projects in project prioritization would enhance transportation accessibility for low-income residents without access to a vehicle. Non-motorized projects have the potential to increase access to schools, employment, and fresh food without the need for a vehicle.

The category with the least weight was Freight Accessibility and Mobility. This category did not change from the last plan. Projects were judged whether or not they would enhance, expand or benefit access to rail, air and water for freight.

Exhibit 51 – Environmental Justice Populations and LRTP Projects

Fiscal Constraint

In order to plan how the recommended LRTP projects can be financially implemented within the time horizon of the plan, a fiscal constraint was applied using an assumption of yearly funds to be available to Erie County over the life of the plan.

Cost estimates were prepared for each project at a planning-level using unit prices and estimates of construction quantities, such as total area of roadway reconstruction, with a percentage of construction (C) cost set aside for preliminary engineering (P), final design (F), right-of-way (R), and utilities (U). Rates were applied to the construction cost to determine cost for Maintenance & Protection of Traffic, Mobilization, Contingencies, and Construction Inspection. Preliminary Engineering and Final Design were assumed at 7.5% of construction cost, with Right-of-way and Utilities at 5% of construction cost unless otherwise known to be none or greater. A contingency of 40% was added to the construction cost to account for unknown or unforeseen costs. All planning-level forecasts should be carefully reviewed before advancing a project to account for new information and fluctuations in unit costs.

Long range transportation plans are required by PennDOT to account for Year of Expenditure (YOE) project costs. The YOE cost of a project is the current cost plus the anticipated rate of inflation added annually to the projected start date of the project. In this way, the plan can realistically account for anticipated escalations in construction cost and the anticipated level of funding. Based on historic levels of escalation in construction costs, YOE costs were assumed to escalate at 3% per year over the life of the plan.

Exhibit 52 shows three different “Phases” of the plan. The Current phase covers the current TIP plus two years, 2022 through 2027. The next phase Mid-Range covers 2028 through 2033 through the remainder of the current TYP. The Long-Range portion of the plan covers the years 2034-2050, which would cover the next full Twelve Year Plan (TYP) cycle, and end 28 years in the future.

Exhibit 52 – Project Programming Phases

Phase	Years	Additional Information
Current	2022-2025 2026-2027 (years 1-4, 5-6)	This phase is the current TIP + 2 years. Projects on this list are occurring at the present time, may have already occurred, or are planned to begin over the next few years. Some studies fall into this category to kick off a list of projects that could be included and resolved in the next LRTP update.
Mid-Range	2028-2033 (years 7-12)	These are the higher priority projects that will ideally advance to the TIP within the next dozen years. Some projects in this phase are split-funded between this phase and the long-range phase. This covers the rest of the Twelve Year Plan.
Long-Range	2034-2050 (years 13-28)	Projects in this phase are supported but will not likely occur within the next 12 years for a variety of reasons including funding, cost, and lower priority.

Erie County contains a wide variety of transportation assets governed and funded by diverse entities, from low traffic gravel roads maintained by one of the 38 Erie County municipalities to interstate highways overseen by the Interstate Steering Committee in Harrisburg.

The County also contains a port, airport, freight and passenger rail, fix route bus service, sidewalks, and trail facilities. Each mode of transportation has different maintenance funding sources and different officials who make decisions about the future.

The goal of this Long Range Transportation Plan is to identify needs in the system and add publicly-supported projects, policies, and studies.

During the development of this LRTP, there were many unknown funding concerns. PennDOT released financial guidance to all planning partners in July 2021. There were many funding challenges due to the pandemic reduced travel, more fuel-efficient vehicles reduced income from the gas tax, and lack of federal legislation. The Transportation Revenue Options Commission (TROC) was established in March 2021 to investigate long-term and short-term funding solutions as gas tax revenue declines in Pennsylvania. The commission considered options such as mileage-based user fees, congestion pricing, bridge tolling, and managed lanes. In Erie County, the loss of CMAQ funding due to decreased congestion compounded the problem, especially when compared to the funding projected during the previous LRTP completed in 2017 (Exhibit 53).

Exhibit 53 – LRTP Funding

Some projects developed during this planning process are on state roads or the federal aid system. Funding for those projects can be drawn from the Erie MPO's allocation of federal and state funds for Highway and Bridge Projects. Even with the loss of CMAQ and declining gas tax revenue, Erie County is allocated over \$17 million annually to fund these activities. The vast majority of those funds are used for ongoing projects and required maintenance activities. The leftover funding, about 15% annually, is allocated to projects in this plan. PennDOT's financial guidance from July 20, 2021 for Highway and Bridge funding is shown in Exhibit 54. Detailed descriptions of federal and state funding sources can be found in Appendix F.

Federal Funding Categories

NHPP – National Highway Performance Program: funding for facilities located on the National Highway System (NHS).

STP – Surface Transportation Block Grant (STBG) Program: funding for projects that preserve and improve the conditions and performance on any Federal-Aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.

HSIP – Highway Safety Improvement Program: funding with the purpose of achieving a significant reduction in fatalities and serious

injuries on all public roads, including local public roads.

BOF – Federal Bridge Off-System Program: this category of funds may be used for off system bridges that are defined with a functional class of 08, 09, or 19 only.

FHWA PL/FTA MPP – Metropolitan Planning Program: funding for metropolitan planning activities to provide for a continuing, comprehensive, and cooperative transportation planning process.

UAFF – Urbanized Area Formula Funding: funding for capital projects, planning, operating costs for equipment, and facilities for use in public transportation in an urbanized area with a population greater than 50,000.

State Funding Categories

Appropriation 185: state funding that can be applied to state bridge projects.

Appropriation 581: state funding that can be applied to highway or bridge projects on the State highway system.

Section 1514 – Asset Improvement Program: state funding that can be used for financial assistance for improvement, replacement, or expansion of capital projects.

Exhibit 54 – Highway/Bridge Base Funding Allocation (\$) From July 2021

		NHPP	STP	HSIP	BOF	185	581
Current	2021	2,687,000	4,138,000	1,679,000	2,210,000	5,974,000	4,571,000
	2022	2,375,000	4,119,000	1,679,000	2,210,000	5,974,000	4,934,000
	2023	3,588,000	3,051,000	1,673,000	1,353,000	3,376,000	4,820,000
	2024	3,029,000	3,020,000	1,673,000	1,353,000	3,315,000	5,206,000
	2025	2,494,000	3,018,000	1,673,000	1,353,000	3,315,000	5,299,000
	2026	1,958,000	3,016,000	1,673,000	1,353,000	3,303,000	5,808,000
Mid-Range	2027	1,423,000	3,016,000	1,673,000	1,353,000	3,303,000	5,808,000
	2028	1,033,000	3,016,000	1,673,000	1,353,000	3,303,000	5,808,000
	2029	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,808,000
	2030	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
	2031	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
	2032	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
Long-	2033	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
	2034	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
	2035	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000

2036	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2037	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2038	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2039	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2040	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2041	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2042	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2043	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2044	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2045	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2046	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2047	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2048	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2049	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000
2050	1,033,000	3,016,000	1,673,000	1,353,000	3,302,000	5,807,000

The following percentages were removed from each category for PennDOT to program ongoing projects or maintenance projects:

- 93% of NHPP
- 91.4% of STP
- 96% of 581
- 100% of 185
- 43% of BOF
- 20% of HSIP

The remaining funds are shown in Exhibit 55.

Less than a month away from this plan's completion, on December 7, 2021, new financial guidance was released by PennDOT. It incorporated the projected federal funding from the Infrastructure Investment and Jobs Act (IIJA) signed into law on November 15, 2021. While not shown in the charts here, the Highway and Bridge Base Funding Allocation would increase by approximately 40% with the IIJA funds, and the funds available for the LRTP would increase as well. Evaluation of the full extent of the IIJA funding impact was outside of the scope and timeframe for this plan; however, projects that could potentially be funded through the increase in revenue are listed in Appendix C, labeled as "Potential IIJA/BIL Funded Projects." The increased revenue will likely advance many of the funded projects shown in Appendix C, but this was not fully evaluated due to time constraints.

Exhibit 55 – Erie LRTP Estimated Funding (\$)

NHPP	STP	HSIP	BOF	185	581
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Current	2021	188,090	413,800	1,343,200	1,259,700	0	182,840
	2022	166,250	411,900	1,343,200	1,259,700	0	197,360
	2023	251,160	305,100	1,338,400	771,210	0	192,800
	2024	212,030	302,000	1,338,400	771,210	0	208,240
	2025	174,580	301,800	1,338,400	771,210	0	211,960
	2026	137,060	301,600	1,338,400	771,210	0	232,320
Mid-Range	2027	99,610	301,600	1,338,400	771,210	0	232,320
	2028	72,310	301,600	1,338,400	771,210	0	232,320
	2029	72,310	301,600	1,338,400	771,210	0	232,320
	2030	72,310	301,600	1,338,400	771,210	0	232,280
	2031	72,310	301,600	1,338,400	771,210	0	232,280
	2032	72,310	301,600	1,338,400	771,210	0	232,280
Long-Range	2033	72,310	301,600	1,338,400	771,210	0	232,280
	2034	72,310	301,600	1,338,400	771,210	0	232,280
	2035	72,310	301,600	1,338,400	771,210	0	232,280
	2036	72,310	301,600	1,338,400	771,210	0	232,280
	2037	72,310	301,600	1,338,400	771,210	0	232,280
	2038	72,310	301,600	1,338,400	771,210	0	232,280
	2039	72,310	301,600	1,338,400	771,210	0	232,280
	2040	72,310	301,600	1,338,400	771,210	0	232,280
	2041	72,310	301,600	1,338,400	771,210	0	232,280
	2042	72,310	301,600	1,338,400	771,210	0	232,280
	2043	72,310	301,600	1,338,400	771,210	0	232,280
	2044	72,310	301,600	1,338,400	771,210	0	232,280
	2045	72,310	301,600	1,338,400	771,210	0	232,280
	2046	72,310	301,600	1,338,400	771,210	0	232,280
	2047	72,310	301,600	1,338,400	771,210	0	232,280
	2048	72,310	301,600	1,338,400	771,210	0	232,280
	2049	72,310	301,600	1,338,400	771,210	0	232,280
	2050	72,310	301,600	1,338,400	771,210	0	232,280

EMTA's transit projects are funded at the federal level by FTA Section 5307 Urbanized Area Formula Funding (UAFF), which is an annual apportionment, and FTA Section 5310 funds. The state operating assistance is provided through EMTA's Section 1514 formula apportionment. Local funds are provided by the City of Erie, the County of Erie, and other local sources. Since Erie is a cooperative program of two municipalities (City of Erie, County of Erie), the municipalities annually provide grants to EMTA which are determined by their respective councils. EMTA's financial guidance from May 25, 2021 for Transit funding is shown in Exhibit 56.

As was previously mentioned, the IIJA funding came about less than a month before this plan's completion. While not shown in the charts here, the Transit Base Funding Allocation would increase by approximately 27% for FY 2022 with the IIJA funds. However, evaluation of the full extent of the IIJA funding impact was outside of the scope and timeframe for this plan.

Exhibit 56 – Transit Base Funding Allocation (\$) From May 2021

		UAFF	1415	LOCAL
Current	2021	4,261,473	12,098,000	1,107,890
	2022	4,261,473	12,098,000	1,107,890
	2023	4,261,473	12,098,000	1,107,890
	2024	4,261,473	12,098,000	1,107,890
	2025	4,261,473	12,098,000	1,107,890
	2026	4,261,473	12,098,000	1,107,890
Mid-Range	2027	4,261,473	12,098,000	1,107,890
	2028	4,261,473	12,098,000	1,107,890
	2029	4,261,473	12,098,000	1,107,890
	2030	4,261,473	12,098,000	1,107,890
	2031	4,261,473	12,098,000	1,107,890
	2032	4,261,473	12,098,000	1,107,890
Long-Range	2033	4,261,473	12,098,000	1,107,890
	2034	4,261,473	12,098,000	1,107,890
	2035	4,261,473	12,098,000	1,107,890
	2036	4,261,473	12,098,000	1,107,890
	2037	4,261,473	12,098,000	1,107,890
	2038	4,261,473	12,098,000	1,107,890
	2039	4,261,473	12,098,000	1,107,890
	2040	4,261,473	12,098,000	1,107,890
	2041	4,261,473	12,098,000	1,107,890
	2042	4,261,473	12,098,000	1,107,890
	2043	4,261,473	12,098,000	1,107,890
	2044	4,261,473	12,098,000	1,107,890
	2045	4,261,473	12,098,000	1,107,890
	2046	4,261,473	12,098,000	1,107,890
	2047	4,261,473	12,098,000	1,107,890
	2048	4,261,473	12,098,000	1,107,890
	2049	4,261,473	12,098,000	1,107,890
	2050	4,261,473	12,098,000	1,107,890

L RTP Recommendations

The projects in this chapter were developed as a result of the extensive public and stakeholder outreach; projects were categorized by type of project (Exhibit 57): Highway Projects, Non-Motorized Projects, Betterments, Studies, Local Projects, and Policies.

The projects prioritized and funded by this plan are the Highway and Non-Motorized Projects. It is the recommendation of this plan that those projects join PennDOT's projects in the Erie MPO's Highway/Bridge TIP. While not prioritized or funded in this plan, it is recommended that the MPO and municipalities work together to fund the studies listed here and seek external funding for local projects.

This plan also recommends that the policies listed are adopted as applicable by the governing bodies of various organizations.

This plan further recommends interagency coordination as the Erie Metropolitan Transit Authority, the Erie International Airport, the Erie Western Pennsylvania Port Authority and PennDOT carry out their projects listed in Appendix C. As PennDOT agencies move through their TIP and TYP projects, this plan recommends that Betterments listed in this chapter are integrated into those projects.

Exhibit 57 shows the location of all LRTP recommendation projects throughout Erie County. Project descriptions and maps follow for each of the LRTP project categories (Exhibit 59 through Exhibit 73).

Please note that the numbers assigned to projects in this chapter are not a ranking. They are only used to note the location on the maps. The ranked Highway and Non-Motorized Projects are found in Appendix C.

In an ideal world, all projects in this plan could be funded and built. However, difficult decisions have to be made. As mentioned elsewhere in the report, the loss of CMAQ funds has placed the Erie MPO in worse financial condition than during the last update five years ago. During this plan, the choice was made to maximize the amount of projects that could be completed by 2050.

The result of this choice was that some very highly ranked projects were not programed. Specifically, projects ranked fifth, sixth and seventh were not assigned funds in the plan.

- Ranked 5th: Lawrence Park Main Street Streetscape
- Ranked 6th: Sixth Street Bikeway from Pittsburgh Ave to Franklin Ave
- Ranked 7th: Sassafra Pedestrian Bridge over the Bayfront Parkway

The MPO is fully supportive of these projects and will work with the Municipalities to secure funding for these projects. If other funding avenues fail, their aspirational status will be reevaluated.

Exhibit 57 – LRTP Recommendation Categories

Category	Description	Source
Highway Projects	Projects affecting automobile and freight travel that are well-developed; these projects aim to improve accessibility, mobility, safety, congestion, and aesthetics	LRTP

Category	Description	Source
Non- Motorized Projects	Projects affecting pedestrian and bicyclist travel that are well-developed; these projects aim to address accessibility, mobility, safety, equity, recreation, and improve health and expand tourism	LRTP
Betterments	The purpose of this listing is to identify critical gaps in pedestrian and bicycle infrastructure, as well as roadway maintenance, so upgrades can be considered during routine roadway improvement or maintenance projects along the identified routes	LRTP
Studies	Studies were recommended when groups of comments focus on a particular area, but there is insufficient information currently available to develop a specific project to address the area's needs	LRTP
Local Projects	Projects similar to the Highway Projects that should be locally-focused and developed; these projects were mapped and included in the plan so that they can be incorporated into future municipal planning and project development efforts	LRTP
Policies	Policy statements can encompass recommendations such as land use changes, municipal coordination, and improved procedures	LRTP
Highway / Other	List of highway projects on PennDOT's current TIP, TYP, and post-TYP with cost estimates (found in Appendix C)	PennDOT
District Bridges	List of State Bridges for rehabilitation on PennDOT's current TIP, TYP, and post-TYP with cost estimates (found in Appendix C)	PennDOT
Local Bridges	A list of Local Bridges over 20 feet in need of repair, rehabilitation and preservation that has been prioritized by the MPO for funding with the \$5 Local Use Fee	MPO
Transit	A list of planned transit projects from EMTA (found in Appendix C)	EMTA
Port	A list of planned transit projects from EWPPA (found in Appendix C)	EWPPA

Category	Description	Source
Aviation	A list of planned aviation projects from PennDOT Bureau of Aviation and Erie International Airport (found in Appendix C)	BOA/ERI

Exhibit 58 – Proposed LRTP Projects

Exhibit 59 – Highway Projects

Exhibit 60 – Fully Funded Highway Projects

Type	ID	Project Title	Municipality	Description
Highway	1	Bayfront Parkway and Cranberry Street Intersection	City of Erie	This project will implement recommendations from an ongoing traffic analysis at the Cranberry Street and Bayfront Parkway Intersection. Additional traffic control measures such as a traffic signal will be implemented to improve pedestrian and vehicular safety at the existing non-signalized intersection.
Highway	2	West 8th Street two-way conversion and intersection improvements	City of Erie	Intersection improvements at West 8th Street and Cherry Street, Walnut Street, Chestnut Street and Myrtle Street intersections will convert this one way street to 2-way operation in this area. Intersection improvements to include crosswalks, signage, gateway elements.
Highway	3	Implementation of Fairview Township's Master Plan	Fairview Township	Transportation enhancements on US 20 from Old Ridge Road to Linda Ave and at the intersection of Avonia Road and Chestnut Street are the result of the Township's master plan. This project includes streetscape enhancements such as decorative pavement, decorative pedestrian lighting, and street trees. Also included are ADA compliant pedestrian ramps, storm drainage infrastructure, and intersection improvements.
Highway	4	SR 5 at Hardscrabble Road Intersection Realignment	Fairview Township	Realign Route 5 at Hardscrabble Road to come to a 90-degree intersection to improve line of sight, safety, and traffic operations. Rectangular Rapid Flashing Beacon (RRFB) will be added for safety of crossing pedestrians and golf carts.

Highway	5	Edinboro Rd @ Old Zuck Rd and Hershey Rd @ Hamot Rd Intersection Improvements	Summit Township	Intersection improvements including roundabout at Hershey Rd and Hamot Rd, realignment of Old Zuck Rd at Edinboro Rd (with signal if warranted)
Highway	6	I-90 @ Perry Hwy (SR 97) Improvement project	Summit Township	Improvements including adding a north-bound right turn lane from Perry Highway to east-bound I-90.
Highway	7	SR 89 Enhancements in North East	North East Borough	Construct improvements to Clinton Street at Pearl Street intersection including enhanced crosswalk striping and all-way stop analysis or reversal of major and minor flows to improve safety and accessibility. Construct missing sidewalk link along SR 89 and install curb cuts at the Kwik Fill driveway to properly denote the gas station parking lot and improve safety for motorists and pedestrians.
Highway	8	US 19/Peach Street Intersection improvements and coordination	Summit Township and Millcreek Township	Improve the intersections of Hershey Rd, Rotunda Dr, and Keystone Dr with US 19 (Peach St) to consider access to and operations of personal vehicles along with transit, commercial vehicles, pedestrians, and bicyclists. Improvements may include roadway alignment changes. Additionally, coordinate all traffic signals along US 19 (Peach St) corridor from I-90 to City of Erie. Signals aside from Hershey Rd, Rotunda Dr, and Keystone Dr will only receive traffic signal optimization and coordination using adaptive signal control to account for changing traffic patterns such as holiday shopping season, emergency detour route diversions from I-90, and general weekday peak hour traffic
Highway	9	38th Street @ Liberty St., Peach St., Cherry St. and Shunpike Rd. Intersections	City of Erie	Implement preferred recommendations from the 38th Street study, including lane realignment, intersection improvements, signal coordination, addition of bike lanes and pedestrian improvements
Highway	10	US 6 at Beaver Dam Road (SR 89) Intersection Improvement Project	Wayne Township	Construct intersection improvements to remove obstructions to sight distance and improve intersection safety. Since this intersection is along Route 6 which has been identified through local planning efforts as a key bicycle route, consider the construction of amenities for the future US 6 bike route according to the PA Route Master Plan Design Guide.

Exhibit 61 – Aspirational Highway Projects

Highway	11	Lawrence Park Main Street Streetscape	Lawrence Park Twp	Safety and streetscape improvements including: wider sidewalks, improved street lighting, improved ADA curb ramps, improved crosswalks, improved curbing, additional trees, improved parking, improved drainage
Highway	12	Millcreek Township Intersection Study SR 97/505/Evans Road/Young Rd	Millcreek Twp	Traffic circulation improvements including a new connection between Old French Road and Perry Highway, converting Glenwood Park Ave to one-way operation, and a roundabout at the intersection of Perry Highway, Young Road, Glenwood Park Ave and Evans Road
Highway	13	Roundabout Edinboro Rd at Springhill Community Dr	Millcreek Twp	Single-lane roundabout at Edinboro Road and Golf Club Road/Springhill Driveway to address drivers having a difficult time exiting the Springhill Senior Living Community due to vehicle speeds and limited gaps in traffic.

Highway	14	Widen Edinboro Rd from Interchange Rd to Crestview Conn	Millcreek Twp	Additional south-bound lane on Edinboro Road from Interchange Road to Crestview Connector, which will accommodate the need for a second left turn lane from west-bound Interchange Road to south-bound Edinboro Road.
Highway	15	Extend Center Turn Lane on US 19/Peach St from Robison Rd to Dorn Rd	Summit Twp	Extend Center Turn Lane on US 19/Peach St from Robison Rd to Dorn Rd
Highway	16	US 19 at Oliver Road	Summit Township	Construct capacity enhancements such as widening on Oliver Road, additional turn lanes, traffic signal phasing changes, and accommodations for pedestrians to safely cross US 19 or Oliver Road.
Highway	17	North Main Street (SR 8) at Perry Street (SR 97) Intersection Improvement Project	Union City Borough	Realign intersection to improve sight distance; improve signing and pavement marking and consider turn lanes, review traffic signal warrants, etc.

Exhibit 62 – Non-Motorized Projects

Exhibit 63 – Fully Funded Non-Motorized Projects

Non-Motorized	1	10th St Bikeway from Bayfront Pkwy to Bayfront Conn	City of Erie	This bikeway will connect the West Bayfront neighborhood with the East Side, and offers a low-stress parallel route to 12th Street. Proposed improvements vary by segment, but include sharrows and other possible improvements to be determined.
Non-Motorized	2	19th/21st Bikeway from Pittsburgh Ave to Bird Dr	City of Erie	Proposed improvements vary by segment, but include: sharrows, restriping existing roadway for bike lanes, and shared use paths. Crossing improvements may be necessary at Greengarden Boulevard, Liberty Street, Cherry Street, Peach Street, French Street, and Parade Street. Restriping of the Buffalo Road Bridge at the Bayfront Connector will depend on the feasibility of removing the left turn lanes at East Avenue and Pennsylvania Avenue.
Non-Motorized	3	32nd/29th/28th Bikeway from Pittsburgh Ave to East Ave	City of Erie	Proposed improvements vary by segment, but include: sharrows and restriping existing roadway for bike lanes.
Non-Motorized	4	East Ave Bikeway from E Bay Dr to E 38th St	City of Erie	Proposed improvements vary by segment, but include: restriping existing roadway for bike lanes and sharrows.
Non-Motorized	5	Downing Ave Bikeway from E Lake Rd to E 28th St	City of Erie	Proposed improvements vary by segment, but include: restriping existing roadway for bike lanes. Crossing improvements may be necessary at East Lake Road.
Non-Motorized	6	Bird Dr Bikeway from Fairmount Pkwy to E 38th St	City of Erie	Proposed improvements vary by segment, but include: restriping existing roadway for bike lanes and sharrows.

Non-Motorized	7	State St from Bayfront Pkwy to 14th St	City of Erie	Although Active Erie does not recommend State Street as a major cross-town bikeway, it does endorse the recommendations of the Downtown Streetscape Master Plan to reduce travel lanes from four to three, and add bike lanes. Bike lanes would provide better access to destinations along State Street for people who ride bikes, and the road diet would slow traffic and decrease the lanes people need to walk across State Street. Because State Street is so wide, it appears that these significant changes could be accomplished within the existing pavement, without moving curbs. Improvements could consist primarily of signs, pavement markings, and adjustments to traffic signals.
Non-Motorized	8	Corry Junction Greenway Trail along rail bed between Mead Ave and N Center St	City of Corry	Residents stated a desire for continuing the Corry Junction Greenway Trail as a multi use trail along an old rail bed that runs north-south between Mead Avenue and North Center Street. This configuration would be allow the off-road Corry Junction Greenway Trail to continue from its current terminus at PA Route 426 south toward the Central Business District.
Non-Motorized	9	Millcreek Marketplace ped/bike trail connector	Summit Township	Create a new shared use path connecting the end of Golf Club Road along I-76 right-of-way to the western edge of Millcreek Marketplace shopping center. Additional short trail connection would be made to the end of Dunford Way.
Non-Motorized	10	Peach Street and Oliver Road Pedestrian Bridge	Summit Township	Pedestrian bridge over Peach Street.

Exhibit 64 – Alternative Funding Non-Motorized Projects

Pedestrian Bicycle	11	Route 6 Bikeway – Corry Loop	City of Corry	Construct the Corry Loop of the US 6 Bicycle Route to connect the future regional bicycle trail to downtown Corry; project may include shoulder widening, bicycle lane or cycle track striping, trail signage, bicycle racks near downtown Corry, and trail town marketing to encourage economic activity through cycle tourism. Public private partnerships should be encouraged to make trail town successful.
Pedestrian Bicycle	12	Add path parallel to S side of US 6 from Wayne St to Shady Ave	City of Corry	This 1.3-mile side path is proposed in response to a high level of interest expressed during public input for this active transportation plan for a safe route between the residential areas of the community and the Walmart and Corry Memorial Hospital, two community assets that currently are difficult to reach on foot. This active transportation plan proposes a 6-foot-wide side path for pedestrian use. A wider side path would accommodate both bicycle and pedestrian use, but a 6-foot-wide path acknowledges and responds to PennDOT's plan in "Pennsylvania Route 6 Bicycle Master Plan Design Guide" to add shared-use lane markings to US Route 6.

Exhibit 65 – Aspirational Non-Motorized Projects

Pedes- trian Bicy- cle	13	6th St bikeway from Pittsburgh Ave to Franklin Ave	City of Erie	This bikeway will connect to planned bike infrastructure in Millcreek Township to the west and to Lawrence Park Township in the east via East Lake Road. Proposed improvements vary by segment, but include: restriping existing roadway for bike lanes, widening to accommodate bike lanes, and new shared use paths.
Pedes- trian-Bicy- cle	14	38th Street Bikeway from Greengarden Blvd to Bayfront Pkwy	City of Erie	Construct this east-west bikeway through a road diet within the current right-of-way where possible. Provide bicycle lanes to separate cyclists from the general flow of traffic to minimize congestion and improve safety for motorists and cyclists.
Pedes- trian Bicy- cle	15	Raised intersections/high vis crosswalks at Main St and N 1st St, and Wright St at E Congress St and E Irving St	City of Corry	Raised intersections/high vis crosswalks at Main St and N 1st St, and Wright St at E Congress St and E Irving St
Pedes- trian Bicy- cle	16	Signalize US 6 and Worth St, US 6 and Sciota St	City of Corry	Signalize US 6 and Worth St, US 6 and Sciota St. Add high-visibility crosswalks and pedestrian-activated signals.
Pedes- trian Bicy- cle	17	Central Bayfront Parkway Multi-modal Improvements: Sassafra Pedestrian Bridge	City of Erie	A bridge from the top of the bluff, over the Bayfront Parkway to Erie Event's Market House will be created to connect Erie neighborhoods to the waterfront.

Exhibit 66 – Betterments Projects

Exhibit 67 – Betterments Projects (Not Ranked or Funded)

Betterment	1	US 6 Bikeway	LeBoeuf Township; Mill Village Borough; Union Township; Union City Borough; Concord Township; Wayne Township; City of Corry	Construct Route 6 Master Plan recommendations for a bikeway along US 6 from the Erie County line in LeBoeuf Township through Mill Village, Union City, and Corry (which may include tasks to widen shoulders, move / replace / remove guiderail, and add signage) when the state route is due for a betterment. Pursue community efforts to designate "Heritage Towns" along the route.
Betterment	2	Mead Avenue (SR 166)	City of Corry	Consider Mead Avenue (SR 0166) for sidewalk construction along both or either sides of the roadway along the railroad tracks when the state route is due for a betterment.

Betterment	3	Center Street (SR 426)	City of Corry	Consider Center Street (SR 462) for sidewalk construction along both or either sides of the roadway along the railroad tracks when the state route is due for a betterment.
Betterment	4	East Grandview Boulevard	City of Erie; Millcreek Township	Complete missing sidewalk links on East Grandview Boulevard when route is due for a betterment.
Betterment	5	Waterford ADA Sidewalks	Waterford Borough	Work with PennDOT to install a new ADA accessible sidewalk and curb ramps from the bridge on US 19 (near Water St) to the parking lot of Tops Markets.
Betterment	6	SR 18 Bridge pedestrian repair	Platea Borough	Repair the parapet walls and pedestrian walkway on the bridge for viewing of the Erie Extension Canal. Note that the bridge itself is structurally sound, the repair would only be to the parapet only.
Betterment	7	US 6N Bikeway	Springfield Township; Conneaut Township; Albion Borough; Elk Creek Township; Washington Township; Edinboro Borough; LeBoeuf Township	Pursue roadway widening along US 6N according to the Moving Forward Along Route 6 plan when the state route is due for a betterment. Pursue community efforts to designate "Heritage Towns" along the route.
Betterment	8	Sidehill Road (SR 1008)	North East Township	Reconstruct roadway and upgrade stormwater infrastructure along Sidehill Road (SR 1008) in North East Township to correct slope and embankment failure and remove the roadway weight restriction. Non-pedestrian or bicycle project.
Betterment	9	US 5 at SR 89	North East Township	Construct road diet along the US 5 corridor near its intersection with SR 89 to reduce travel speeds through corridor, improve traffic and multi-modal connectivity between downtown North East and Freeport Beach, and reduce crossing distance across Route 5 when state route is due for a betterment.
Betterment	10	US 20 at Stinson Road	North East Township	Construct roadway connection to improve sight distance at the intersection of US 20 and Stinson Road when state route is due for a betterment.
Betterment	11	US 20 West Access Control	North East Township	Coordinate with business owners along US 20 in the valley to the east of the Borough border to consolidate driveways by striping or installation of curbing along US 20 to improve safety by reducing conflict points between traffic on US 20 and parking lots when state route is due for a betterment.
Betterment	12	Crosswalks at N Center St and US 6, N Center St and Smith St	City of Corry	Enhance crosswalks at N Center St and US 6, N Center St and Smith St.
Betterment	13	Mid-block crossing on SR 426 at Corry Junction Greenway Trailhead	City of Corry	Create a mid-block crossing for pedestrians across SR 426 at Corry Junction Greenway Trailhead.
Betterment	14	Bike lanes on N Center St from US 6 to railroad tracks	City of Corry	Add bike lanes on N Center St from railroad tracks to US 6 in conjunction with the Corry Junction Greenway Trail bike kiosk and trailhead.

Betterment	15	W 4th St traffic calming and intersection improvements	City of Erie	On West 4th Street from Walnut Street to Liberty Street, repave, consider two-way operation for traffic calming as well as improve stormwater infrastructure and sight distance.
Betterment	16	Pedestrian improvements in Albion Borough	Albion Borough	Address pedestrian infrastructure needs along US 6N, SR 18, and Old Albion Rd in Albion Borough, including sidewalks, crosswalks, lighting, etc.
Betterment	17	Pittsburgh Ave Sidewalks and Bikeway	City of Erie	Pittsburgh Ave Bikeway from W 6th St to W 38th St, construct continuous sidewalks from 8th St to 21st St.
Betterment	18	Presque Isle Gateway infrastructure improvements	Millcreek Township	Peninsula Drive from W 10th Street to Presque Isle State Park. Streetscape and multimodal improvements as called for in the Embrace Millcreek Plan and Presque Gateway District Plan.
Betterment	19	Hamot Road improvements	Summit Township	Upgrade Hamot Rd from Hershey Rd to Dorn Rd to collector with 4-ft shoulders.
Betterment	20	US 19 Peach Street sidewalk connections	Summit Township	Create sidewalk connections on US 19 Peach St within the I-90 interchange and north of Summit Towne Centre.
Betterment	21	Oliver Road Improvements	Summit Township	Widen Oliver Road and widen approach to Peach St for dual left turn lanes.
Betterment	22	Manchester Road Sidewalk	Fairview Township	Widen shoulder or install sidewalk to allow walk down and up hill.
Betterment	23	SR 18 Cranesville Borough line to US 6N	Elk Creek Township	Manage stormwater along SR 18 from the Cranesville Borough boundary to US 6N to increase flow capacity and redirect water.
Betterment	24	Norcross Rd/Shannon Rd pedestrian and bicycle safety	Harborcreek Township, Millcreek Township, Wesleyville Borough	Widen shoulders or construct sidewalks for safer pedestrian and bicycle travel along Norcross Rd/Shannon Rd from Station Road to Koehler Road
Betterment	25	SR 426 stormwater issues	North East Township	Address stormwater from SR 426 that flows onto residential property causing erosion and flooding.
Betterment	26	Perry Hwy stormwater issue	Summit Township	Mitigate stormwater to address flooding on Perry Highway south of Marsh Road.
Betterment	27	SR 99 from McLane HS to Wainer Park pedestrian crossing	Washington Township	Improve pedestrian crossing from General McLane High school campus to Wainer Park to include better signage, high visibility cross walk or crossing-beacon system.
Betterment	28	Gridley Park Parking, Safety, and Multimodal Enhancements	City of Erie	Construct roadway improvements in the area surrounding Gridley Park in West Bayfront, including angled parking, bump outs, and traffic calming measures.
Betterment	29	Girard Main Street Streetscape (US 20)	Girard Borough	Replace the traffic light poles and masts to match the period lighting along Main Street. Install crosswalks on Main Street of stamped red concrete to look like brick. Add additional ADA Parking on Main Street near the Canadian National RR. Run a water line to the Civil War Monument island in the middle of Main Street.
Betterment	30	W 21st St Sidewalk	City of Erie	Once the City has created a sidewalk completion and repair program, complete sidewalk route on W 21st St between Greengarden and Pittsburgh Ave.

Betterment	31	Townhall Rd Sidewalk	Summit Township	Install sidewalk on Townhall Road to accommodate pedestrians
Betterment	32	Heidler Road from Pebble Creek Drive to Walnut Creek Middle School Sidewalks	Millcreek Township	Construct sidewalks to provide safe linkage from residential neighborhood along Heidler Road to Walnut Creek Middle School.
Betterment	33	High Street Sidewalk and ADA Crosswalks	Union City Borough	Replace poor condition sidewalks along East and West High Street (US 6) have sidewalks when improvements are made to the roadway. All intersections need to be brought into ADA compliance.
Betterment	34	Main Street Sidewalk and ADA Crosswalks	Union City Borough	Replace poor condition sidewalks along North and South Main Street (SR 8) when improvements are made to the roadway. All intersections need to be brought into ADA compliance.
Betterment	35	Market Street Sidewalk and ADA Crosswalks	Union City Borough	Replace sidewalks along Market Street. All intersections need to be brought into ADA compliance as stated in the Borough's Active Transportation Plan.
Betterment	36	SR 97 Sidewalk and ADA Crosswalks	Union City Borough	Replace sidewalks along Route 97 in Union City Borough. All intersections need to be brought into ADA compliance.
Betterment	37	Bridge Street Sidewalk and ADA Crosswalks	Union City Borough	Bridge Street sidewalks are either non-existent or in extremely poor condition. This is a street that leads to the School District. Students and pedestrians walk in the street because of the condition and missing sidewalks. All intersections need to be brought into ADA compliance.
Betterment	38	Union City SR 8 Stormwater issue	Union City Borough	Remediate stormwater from SR 8 that overflows the catch basins installed by PennDOT, which sends water overflowing into residential areas and catch basins.

Exhibit 68 – Studies

Exhibit 69 – Studies (Not Ranked or Funded)

Study	1	12th Street Transportation and Land Use Study	City of Erie	Evaluate the land use and transportation to revitalize the 12th Street industrial corridor into potential mixed-use development with multimodal transportation infrastructure.
Study	2	City of Erie intersection studies	City of Erie	Review intersection concerns at: Pittsburgh Ave @ 15th St (add left turn lane for NB Pittsburgh Ave); Brandes @ 28th St (sight distance for SB Brandes); W Grandview @ Peach St (needs signal or roundabout, difficult to cross); Pine @ 33rd/34th (intersection geometry/sight distance issues); Glenwood Park @ 30th (sidewalks used for parking, difficult for ped/bike)
Study	3	SR 98 Corridor Study Fairview	Fairview Township	Investigate if a traffic signal warranted for SR 98 @ McCray Rd and evaluate the sight distance at SR 98 @ Water St.
Study	4	State Street Corridor Study	Albion Borough	Prepare State St corridor improvement plan

Study	5	North East Railroad Crossing Safety	North East Borough	Investigate safety improvements to at-grade rail crossings located at: Smedley St, S Washington St, and Loomis St. Concerns include uneven grade in intersections, high commercial truck traffic, and high train speeds.
Study	6	Erie City Parking Study	City of Erie	Assess the current and future parking needs of the City of Erie with an emphasis on development in the Downtown and Bayfront areas.
Study	7	Springfield Township Railroad Crossing Warning Devices	Springfield Township	Study whether crossing warning devices are needed at: T-336 Scott Road, T-324 Elmwood Road, T-474 Ellis Road, T-322 Crayton Road
Study	8	Bayfront Parkway / Station Road / PSU Behrend Pedestrian Circulation and Safety Study	Harborcreek Township	Study of pedestrian movement between student housing and Bayfront Parkway; study should recommend preliminary design alternatives to provide direct, safe connections and encourage pedestrians to use them to cross the Bayfront Parkway.
Study	9	US 20 Harborcreek Township Signal Retiming Study	Harborcreek Township; Wesleyville Borough	Study of traffic circulation, signal warrants, left turn lane and phase warrants at approximately twelve (12) signals in Harborcreek Township and Wesleyville Borough; study should include recommendations on equipment upgrades, traffic signal coordination, potential signals for removal if applicable, intersection improvements, and signal timing plans.
Study	10	Edinboro Road at West Road Traffic Improvements at Intersection / Signal Warrant Study	McKean Borough	Study of potential improvements to Edinboro Road at West Road to address traffic congestion and safety concerns; potential signal warrant study.
Study	11	I-90 at Route 8 Interchange Ramp Traffic Circulation	Millcreek Township; Greene Township	Study of traffic circulation and ramp configurations around the interchange of I-90 at Route 8, to be pursued as development pressure occurs.
Study	12	US 20 @ Iroquois intersection issues	Harborcreek Township	Evaluate intersection issues: sight distance due to utility poles, stormwater ponding, pavement condition under RR overpass, condition of RR overpass
Study	13	US 20 @ SR 430	Wesleyville Borough	Evaluate the current intersection for safety and operational improvements.
Study	14	Kuntz Road/South Hill Road multi-modal safety	Millcreek Township	Evaluate safety for the entire roadway for vehicles, bicycles and pedestrians, including shoulder width, sight distance/blind spots with hills
Study	15	US 20 @ Dobler Road	Fairview Township	Evaluate the need for a signalized intersection with consideration given to single marginal access road to Pleasant Ridge Manor and PHB Industries
Study	16	Union City Reservoir Trail	Union City Borough	Work with various partners to establish a non-motorized connection between Union City Borough and the Union City Borough Reservoir.
Study	17	Erie to Pittsburgh Trail Extension	City of Erie, Millcreek Township, Wayne Township, Amity Township, Waterford Township, City of Corry, Greene Township	Evaluate the feasibility of creating a branch of the Erie to Pittsburgh Trail that connects the City of Corry to the City of Erie through Erie County.
Study	18	US 6 @ Main Street	Mill Village Borough	Investigate if a traffic signal in place of the current flashing beacon at this intersection is needed due to traffic and planned development.
Study	19	US 20 @ Patio Dr intersection issues	Millcreek Township	Investigate difficulty turning left onto US 20 from Patio Drive and difficulty for pedestrians crossing US 20 at this location.

Study	20	Edinboro Wainer Park Trail	Edinboro Borough, Washington Town- ship	Construct a multi-use trail connecting downtown Edinboro, Edinboro Lake, and Wainer Park in Washington Township. A short-term, low-cost effort would be to include this future trail on an official map.
Study	21	SR 98 @ Falls Rd intersection is- sue	Franklin Township	Investigate intersection issue: SB traffic from SR 98 turning onto Falls Rd is speeding and makes it difficult to exit the nearby driveway. One option would be to cul-de-sac Falls Rd and make the primary intersection be W. Stancliff Rd.
Study	22	Grubb @ Hershey intersection is- sues	Millcreek Township; McKean Township	Investigate speeding and sight distance concerns at this intersection. Con- sider creating a three-way stop intersection.

Exhibit 70 – Local Projects

Exhibit 71 – Local Projects (Not Ranked or Funded)

Local	1	Dagget Road at Birchdale Road In- tersection Improvements	Girard Township	Consider traffic calming and safety upgrades in the vicinity of US 20 at Dagget Road and Birchdale Drive, including adjusting the intersection off- set to come together at a 90-degree angle to improve sight distance and enhancing signing & pavement markings.
Local	2	Fairplain Road Reconstruction	Girard Township; Railroad	Reduce the crest of the vertical curve on Fairplain Road to improve sight distance and update railroad crossings to enhance freight access, particu- larly for the Gravel Pit on the east and other industry as water and sewer expand.
Local	3	Pedestrian Bridge Over Fourmile Creek from Water Street to Twinbrook Rehabilitation Center	Lawrence Park Town- ship	Re-establish pedestrian link over Fourmile Creek that was lost when the poor condition pedestrian bridge was closed. This is an important route for students in the Iroquois School District.
Local	4	Union City Parks Trails	Union City Borough	Complete the Walking Path network recommended for Caflisch Park, Deveraux Park, a Nature Park and the Willow Street Ball Field.
Local	5	Shawnee Drive at W 6th Street at Cherokee Drive Intersection Im- provement Project	City of Erie	Construct intersection improvements and traffic calming measures at the intersection of Shawnee Drive at West 6th Street/Cherokee Drive near Frontier Park. Alternatives should better clarify traffic control and vehicle movements and provide for safe crossings for pedestrians over the large paved area and consider ways to incorporate bicycle traffic.
Local	6	Pedestrian bridge over 12 Mile Creek	Harborcreek Town- ship	Pedestrian bridge over 12 Mile Creek in Shorewood Park
Local	7	SR 89 Underpass Gateway En- hancements	North East Borough	Enhance the SR 89 railroad underpass with community art / mural, wel- coming gateway signage, and lighting.
Local	8	Springhill Community Dr connector to Crestview Dr Connector	Millcreek Township	Create a connector road joining Springhill Community Drive to Crestview Drive.
Local	9	Service Rd from Millcreek Market- place Dr to Crestview Conn	Millcreek Township	Create a service road from the from Millcreek Marketplace Dr to Crestview Connector.

Local	10	Wattsburg Road at Norcross Road Intersection Improvement	Millcreek Township	Realign Wattsburg Road at the Norcross Road intersection to reduce skew and improve sight distance.
Local	11	Colonial Avenue Reconstruction - West 38th Street (SR 4016) to Old Sterrettania Road	Millcreek Township	Reconstruct Colonial Avenue from West 38th Street to Old Sterrettania Road.
Local	12	Upgrade Braund Rd from Hershey Rd, connect to Keystone Dr and Downs Dr	Summit Township	Extend and upgrade Braund Rd from Hershey Rd south. Extend Keystone Drive and Downs Drive to connect with the new section of Braund Road.
Local	13	Sidewalk repairs on W 7th St at Plum, Poplar	City of Erie	Repair sidewalks on West 7th St between Plum Street and Poplar Street
Local	14	Sidewalk - 3rd Street	City of Erie	Install sidewalks along Cascade Park on 3rd St
Local	15	Pedestrian improvements near PennState Behrend Campus	Harborcreek Township	Improve pedestrian environment along Jordan Rd near the PennState Behrend Campus.
Local	16	Safe Routes to Schools assessment: Saint George School	Millcreek Township	Assess safe routes for students to walk to Saint George Catholic Grade School once the City has created a Safe Routes to School policy. Narrow roads, few sidewalks and crosswalks make it hard to walk from the neighborhoods to this school.
Local	17	Safe Routes to Schools assessment: James S Wilson	Millcreek Township	Assess safe routes for students to walk to James S Wilson public middle school in Millcreek Township.
Local	18	Peach Street Marketplace traffic circulation	Summit Township	Along local roads serving Peach Street Marketplace and adjacent development (Rotunda Dr, Keystone Dr, Douglas Dr, Commons Dr, Downs Dr): Clarify signage, evaluate lane designations and signal warrants for traffic entering/exiting shopping areas. Unfamiliar drivers are unaware that they have the right of way, leading to back ups. Some 4-way stops may need to be converted to signals
Local	19	Upper Bayfront bike trail	City of Erie	Connect the Bayfront Promenade on the top of the bluff to the water at additional locations. Specifically, connect the W 2nd Street bike/pedestrian trail to the Promenade and convert the old Myrtle Street to a bike/pedestrian trail to connect the Promenade to Sassafra St.
Local	20	Cascade St Bikeway from W 2nd St to W 38th St	City of Erie	Create a Cascade St bikeway from W 2nd St to W 38th St.
Local	21	Connect easement near Corry Memorial Hospital to Russell Rd	City of Corry	Connect easement near Corry Memorial Hospital to Russell Rd for pedestrian and bicycle users.
Local	22	Multi-use path on Mead Park along Mead Ave	City of Corry	Create a multi-use path on Mead Park along Mead Ave.
Local	23	Sidewalks in Corry	City of Corry	Create or replace poor sidewalks at North 1st St by the railroad tracks, at Corry City Park, along Snyder Cir, along South Center St/7th St, along Church-Concord-Grove-King Sts, along Frederick St, along Congress St, along Elk St, along Shamrock Lane between US 6 and Corry Memorial Hospital, and along Worth Lane between US 6 and Glenn Lane.

Local	24	Crosswalks in Corry	City of Corry	Install high visibility crosswalks at Wayne St and East Congress St and N Irving St, and in the Corry Business District.
Local	25	Edinboro Lake Boardwalk	Edinboro Borough, Washington Township	Install a boardwalk along the southern edge of Edinboro Lake by the Lakeside Commons area and along Route 99 to Edinboro Lake Resort to support downtown revitalization, recreation, and tourism.

Exhibit 72 – LRTP Recommended Policies (Descriptions)

Type	ID	Responsible Parties	Description
Policy	1	City of Corry	Adopt policies that further the work of the Corry Active Transportation Plan, Corry Blue Zones Project and Impact Corry.
Policy	2	City of Erie	Pursue the East Bayfront Greenway system as recommended in the City of Erie's East Bayfront Neighborhood Plan. This may include land assemblage as blighted properties are removed in the East Bayfront area to promote community parks and encourage programs that provide hands-on job training for residents on demolition / construction services on these local projects.
Policy	3	City of Erie	Establish a Five-Year Capital Improvement Program for the City and a sidewalk completion and repair program.
Policy	4	City of Erie	Support the Downtown Streetscape Master Plan by encouraging business owners to update facades, provide outdoor dining options, and reference the Downtown Streetscape Master plan when selecting streets for rehabilitation.
Policy	5	City of Erie	Support redevelopment and transportation infrastructure enhancements to vacant or abandoned properties, making them mixed-use, multimodal, and accessible. Pursue studies to prioritize and achieve the community's goals for post-industrial sites.
Policy	6	City of Erie; Our West Bayfront	Support Our West Bayfront Neighborhood goals such as extending the Liberty Street Boulevard from 10th St to 12th St, adding crosswalks around Gridley Park and other identified priorities that are ready for implementation.
Policy	7	Girard Township	Girard Township should consider implementing a posted truck route or ordinance to route trucks away from residential neighborhoods and schools along Elk Park Road. Concerns were for safety and noise.
Policy	8	Harborcreek Township	Support construction of sidewalk connections to improve pedestrian safety walking between shopping centers and along Buffalo Road in Harborcreek Township.
Policy	9	EMTA, Greater Erie Community Action Partnership	Support on demand transit service for impoverished residents who need to get to work locations not accessible through current transit schedules and routes.
Policy	10	PennDOT; Countywide	Work on maintenance agreements between PennDOT and municipalities for sidewalks and trails to provide incentive for municipalities to improve multimodal infrastructure.
Policy	11	City of Erie	Finalize, adopt, and implement a complete streets policy. Once adopted, update the Zoning Ordinance and Subdivision and Land Development Ordinance for consistency.
Policy	12	City of Erie	Establish requirements for maintaining bicycling and walking traffic during construction.
Policy	13	City of Erie	Establish Lighting Guidelines to assist in evaluating citizen requests.
Policy	14	City of Erie	Adopt a Citywide Safe Routes to School or Other Walk/Bike-To-School Program.

Policy	15	Union City Borough	Adopt policies that further the work of the Union City Active Transportation Plan.
Policy	16	Erie County	Transform old rail corridors into trails for walking, biking, horseback riding and snowmobiling.
Policy	17	Fairview Twp	Re-establish pavement markings after repaving.
Policy	18	City of Corry	Implement a routine maintenance program for the Corry Junction Greenway Trail
Policy	19	Erie County	Work with municipalities to support and promote the realignment of the Erie to Pittsburg Trail through Erie County. This will consider adding trails to existing roadways and rail corridors.
Policy	20	Erie County	Promote the creation and adoption of traffic calming policies that will help to uniformly assess when traffic calming measures are warranted on any given municipal road.
Policy	21	Erie County	Encourage diverse representation on the MPO board and in other transportation leadership positions throughout the County, working with the Diversity, Equity and Inclusion Commission of Erie County.
Policy	22	Erie County	Support the work of the Rail Future Commission created by Erie County Council in 2021.
Policy	23	Erie County	Encourage communication between Municipalities and PennDOT about non-structural bridge problems such as deteriorated guiderails or parapet walls.
Policy	24	Countywide	Identify and prioritize gravel roads for maintenance and improvements to control dust and pot-holes. Investigate funding options for local road maintenance to assist municipalities with these improvements.

Exhibit 73 – TIP/TYP Projects

Implementation Evaluation

Federal Transportation bills, starting in 2012 with the Moving Ahead for Progress in the 21st Century Act (MAP-21) formalized the requirement for performance measurement, which is consistent with the overall performance-based planning approach used throughout the LRTP. The Erie MPO and EMTA are required to adopt performance targets.

These agreements are separated into Performance Measure (PM) categories.

Performance Measure	Factors Measured	Timeframe
PM1	Safety performance measures	Every Year
PM2	National Highway System (NHS) pavements, bridges carrying the NHS, and pavements on the Interstate measures	Every 4 years (option to revise at 2 years)
PM3	Performance of the NHS, freight movement on the Interstate, and the Congestion Mitigation and Air Quality Improvement (CMAQ) Program	Every 4 years (option to revise at 2 years)
TAM	Public Transit Asset Management	Every Year
Transit Safety	Public Transit Safety targets	Every Year

Safety (PM1)

Safety performance measures are broken down into five categories: number of fatalities per 100 million vehicle miles traveled, number of serious injuries, rate of serious injuries per 100 million vehicle miles traveled and number of non-motorized fatalities and serious injuries. Targets are based on a 1% reduction, which was derived from the actions listed in PennDOT's

Strategic Highway Safety Plan (SHSP), crash data analysis and the desire to support the national initiative Toward Zero Deaths. The Erie MPO has chosen to adopt the targets developed by PennDOT for Erie County. These targets are adopted annually.

2021 Erie County Safety Measures and Targets				
Measure	Baseline (2014-2018)	Baseline (2016-2020)	Target (2016-2020)	Target (2018-2022)
Number of fatalities	23.3	23.2	27.2	18.2
Rate of fatalities per 100 million VMT	1.085	1.129	1.301	0.958
Number of serious injuries	83.1	85.8	78.8	79.4
Rate of serious injuries per 100 million VMT	3.871	4.175	3.768	4.180
Number of non-motorized fatalities & serious injuries	20.5	18.0	16.4	14.6

Pavement/Bridge Condition (PM2)

National pavement and bridge performance measures (82 FR 5886) defined six measures related to the condition of the infrastructure on the National Highway System (NHS). The targets are consistent with PennDOT's objective of managing to lowest life cycle costs. Pavement condition is measured as Good, Fair or Poor based on International Roughness Index (IRI), cracking, rutting and faulting. Performance targets are reviewed biennially for these measures as part of a four-year cycle, the first of which began in 2018. Although FHWA has not established a minimum condition for NHS non-Interstate roadways, PennDOT has established performance targets for the non-Interstate NHS roadways. The Erie MPO has adopted PennDOT's pavement targets. These targets were created at a state level only.

2023 Statewide Pavement Performance Measure Targets					
Measure	Baseline Performance 2017	2-Year Performance 2019	2-Year Target 2019	4-Year Target 2021	4- Year Target 2023
% of Interstate pavements in Good condition	67.2 %	71.5%	N/A	60.0 %	60.0 %
% of Interstate pavements in Poor condition	0.4 %	0.4%	N/A	2.0 %	2.0 %
% of non-Interstate NHS pavements in Good condition	36.8 %	37.6%	35.0 %	33.0 %	33.0 %
% of non-Interstate NHS pavements in Poor condition	2.3 %	2.0%	4.0 %	5.0 %	5.0 %

Bridge condition is rated in good and poor condition by deck area of bridges or culvert rating for culverts over 21 feet in length on the NHS. Data is collected from inspections using the National Bridge Inventory (NBI) Standards. The Erie MPO has adopted PennDOT's bridge condition targets. As with pavement, the adopted targets are for statewide performance and are adopted in a four-year cycle that is evaluated every two years.

Bridge Statewide Performance Measure Targets					
Measure	Baseline 2017	2-Year Performance 2019	2-year Target 2019	4-Year Target 2021	4-Year Target 2023
% of NHS bridges in Good condition	25.6 %	27.0%	25.8%	26.0 %	26.0 %
% of NHS bridges in Poor condition	5.5 %	5.1%	5.6%	6.0%	6.0%

System Performance Measures (PM3)

The FHWA final rule for the National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program was published in the Federal Register ([82 FR 5970](#)) and became effective on May 20, 2017. Statewide targets are established biennially by PennDOT as part of a four-year performance period, the first of which began in 2018.

PM3 statewide targets that are applicable to Erie County are

- Percent of Person-miles Traveled on the Interstate System that are Reliable
- Percent of Person-miles Traveled on the Non-Interstate NHS that are Reliable
- Truck Travel Time Reliability Index – Interstate System Only

The Erie MPO adopted PennDOT's statewide targets for PM3 in November 2018. A revision to interstate reliability and truck reliability was adopted by the Erie MPO in December 2020. The statewide targets are illustrated in the following table.

Statewide Travel Time and Annual Peak Hour Excessive Delay Targets				
Measure	Baseline 2017	2-Year Target 2019	4-Year Target 2021	4-Year Target 2023
Interstate Reliability	89.8 %	89.8 %	89.8 %	89.5%
Non-Interstate Reliability	87.4 %	N/A	87.4 %	87.4%
Truck Reliability Index	1.34	1.34	1.34	1.40

PennDOT also provided the MPO with county specific travel data. Erie County NHS reliability follows the trends of the state. At the mid-performance period (2019) Interstate reliability on I-90, I-79 and I-86 in the County was maintained from the 2017 baseline data at 100%. The reliability on non-Interstate NHS improved over the two year period. However, like the rest of the state, the truck reliability index decreased in Erie County indicating more delay from the 2017 baseline data.

Erie County Travel Reliability			
Measure	Baseline 2017	2018	2019
Interstate Reliability	100.0%	100.0%	100.0%
Non-Interstate NHS Reliability	83.9%	86.7%	88.2%
Truck Reliability Index	1.25	1.23	1.29

Transit Asset Management (TAM)

In July 2016, the Federal Transit Authority (FTA) issued a final rule requiring the Erie Metropolitan Transit Authority (EMTA) to maintain and document minimum Transit Asset Management (TAM) standards, policies, procedures, and performance targets. EMTA is a recipient of Chapter 53 funds that owns and operates federally-funded capital assets used in providing public transportation services.

Required measures for EMTA are:

- Rolling Stock (Revenue Vehicles) – Percentage past the Useful Life Benchmark (ULB) (age only)
- Equipment – Percentage of service vehicles past the ULB (age only)
- Facilities – Percentage of passenger/parking and admin/maintenance facilities that are below a 3 on the Transit Economic Recovery Model (TERM) Scale

EMTA chose to participate in PennDOT's group Transit Asset Management Plan. The statewide targets were then adopted by the Erie MPO.

Performance Measure	Asset Class	FY 2019-20 Target	Current Performance	FY 2020-21 Target
Rolling Stock (Revenue Vehicles)				
Age % of revenue vehicles within a particular asset class that have met or exceeded their Estimated Service Life (ESL)	AO-Automobile	38%	16%	16%
	BR-Over-the-road Bus	12%	12%	12%
	BU-Bus	28%	29%	29%
	CU-Cutaway	39%	42%	42%
	VN-Van	63%	64%	64%
	SV-Sports Utility Vehicle	33%	17%	17%
Equipment (Non-Revenue Vehicles)				
Age - % of non-revenue/service vehicles within a particular asset class that have met or exceeded their ESL	Automobiles	45%	46%	46%
	Trucks and other Rubber Tire Vehicles	50%	50%	50%
Facilities				
Condition - % of facilities with a condition rating below 3.0 on the FTA TERM scale	Administrative/Maintenance Facilities	39%	30%	30%
	Passenger/Parking Facilities	66%	83%	83%
Transit Safety Performance Targets				

Public Transit Safety

In addition to the TAM asset management targets, EMTA establishes safety performance targets in their Agency Safety Plan that are specific to Erie County. These targets were adopted by the Erie MPO Coordinating Committee on June 9th 2021.

2019							
Mode of Transit Service	Fatalities (total)	Fatalities (per 100K VRM)	Injuries (Total)	Injuries (per 100K VRM)	Safety Events (Total)	Safety Events (per 100K VRM)	System Reliability (total)
Fixed-Route	0	0	9	0.88	5	0.49	13,846
Para-Transit	0	0	2	0.40	3	0.60	7,390
2020							
Mode of Transit Service	Fatalities (total)	Fatalities (per 100K VRM)	Injuries (Total)	Injuries (per 100K VRM)	Safety Events (Total)	Safety Events (per 100K VRM)	System Reliability (total)
Fixed-Route	0	0	7	0.48	2	0.14	52,598
Para-Transit	0	0	2	0.29	2	0.29	18,440

Progress towards Target Achievement and Reporting

These Performance Based Planning targets will allow the Erie MPO, EMTA and PennDOT to evaluate the implementation of Long Range Transportation Plan. New data tools are available to evaluate these targets and to choose projects that will support them. The Network Screening Tool is used to evaluate safety investments at intersections and road segments in both the rural areas and the urban areas of Erie County. The Bridge Asset Management System (BAMS) and Pavement Asset Management System (PAMS) are being used to select treatments that will extend the service life of bridges and pavements to maintain them above poor status.

EMTA uses Pennsylvania's transit Capital Planning Tool (CPT) as the central repository for transit asset and performance management activities. EMTA updates CPT data annually to provide a current picture of asset inventory and performance. From this data, PennDOT BPT updates performance targets for both the statewide inventory of Tier II agencies and for each individual agency in the plan based on two primary elements: the prior year's performance and anticipated/obligated funding levels.

The use of these tools in the planning and evaluation process will be reflected in meeting the established targets. When targets are not met strategies will be put in place to understand the deficiencies. The targets themselves will also be reexamined adopted by the Erie MPO on a 1, 2 or 4 year cycle.